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ABSTRACT

The purpose of this study was to document a community college faculty development process through which the faculty learned to reconstruct their curriculum around significant learning outcomes and authentic assessment strategies. Five questions focused the inquiry: (1) What kind of organizational support systems were necessary for the faculty to move through the curriculum change process? (2) What organizational obstacles made curriculum change effort difficult for the faculty? (3) What faculty skills were essential to building learning-centered, outcome-based curricula? (4) What strategies used by the consultants were considered by the faculty to contribute most to their ability to develop a learner-centered, outcome-based curriculum? (5) What part of the curriculum re-design process did the faculty find most difficult? The design of the research was based on a qualitative phenomenological case study model. The author collected data through an intensive case study and then subjected the data to analytical induction. Participants were 23 faculty members from Northwest Community College (NWCC), 19 of whom were part-time, and four of whom were full-time, instructors of ESL. Field notes were generated during 120 hours of observation, and a survey was administered. Findings suggest that, among other things, active involvement of mid-level managers is essential. Research instrument appended. (Contains 137 references.) (NB)

J. Webster

ED 481 468

FACULTY DEVELOPMENT FOR OUTCOME-BASED CURRICULUM REFORM IN THE COMMUNITY COLLEGE

by

Jennifer M. Webster

DISSERTATION

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the requirements for the degree of

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jennifer M. Webster, Author

AN ABSTRACT OF THE DISSERTATION OF

Jennifer M. Webster for the degree of Doctor of Philosophy in Education and presented on May 9, 2001. Title: Faculty Development for Outcome-Based Curriculum Reform in the Community College.

Abstract approved: _____

Ruth Stiehl

The purpose of this study was to document a community college faculty development process through which the faculty learned to reconstruct their curriculum around significant learning outcomes and authentic assessment strategies. The following questions focused the inquiry:

1. What kind of organizational support systems were necessary for the faculty to move through the curriculum change process?
2. What organizational obstacles made curriculum change effort difficult for the faculty?
3. What faculty skills were essential to building learning-centered, outcome-based curricula?
4. What strategies used by the consultants were considered by the faculty to contribute the most to their ability to develop a learner-centered, outcome-based curriculum?
5. What part of the curriculum re-design process did the faculty find most difficult?

In this study, the investigator used an in-depth, qualitative, observational methodology to examine one community college faculty team as they engaged in the process of curriculum reform.

The eight major findings from the study were: 1) active involvement of mid-level managers is essential in outcome-based curriculum reconstruction efforts in the community college; 2) curriculum design teams working at the program level must intentionally communicate with both internal and external stakeholders; 3) balancing consistency with flexibility in institution-wide curriculum planning is a desirable but difficult process; 4) collaborative curriculum redesign is a time-consuming process where open dialogue has the effect of energizing the faculty; 5) systemic thinking and strategic thinking are the two most essential skills; 6) visualization and visual tools are effective means to developing systemic and strategic thinking skills; 7) the use of stories and metaphors actively engage faculty in open dialogue, critical thinking, and cooperative inquiry; and 8) diversity of style, opinions, and worldview add complexity and energy to curriculum planning.

This study provided three main recommendations for community colleges embarking on an outcome-based curriculum reform change effort:

1. Before beginning a major curriculum reconstruction effort, engage support from top institutional officers and insist on the direct involvement of the mid-level manager.
2. Involve faculty in activities that help them think systematically and strategically.
3. Use visual tools to reinforce an understanding of the characteristics of systems.

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TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION.....	1
Background	3
Statement of Purpose.....	9
Importance of the Study	9
Research Questions	10
Assumptions	11
Limitations	12
Delimitations of the Study.....	13
Definition of Terms.....	14
Summary	18
LITERATURE REVIEW.....	19
Introduction	19
The Mechanization of Learning	22
Behavioral Theory	24
The Political Environment	26
Behavioral Objectives: Drivers of Curriculum Development.....	27
An Ecological Understanding of Learning.....	30
Systems Thinking.....	32
Strategic Thinking.....	35
Outcome-Based Education.....	39
Learning Strategies for Systemic and Strategic Thinking.....	41
Authentic Assessment	50
College Curriculum Reform: From Teaching to Learning.....	53
Accreditation	58

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Staff Development.....	62
Summary	64
METHODOLOGY	66
Introduction	66
Design of the Research.....	66
Data Gathering Techniques	71
College and Faculty Group Studied	77
English as a Second Language: Historical Background.....	80
The Consultants.....	81
Study Participants: The ESL Curriculum Team.....	85
Framework for Data Collection.....	86
Data Analysis and Hypotheses Generation	87
Validation of the Transcripts.....	89
Summary	89
PRESENTATION AND ANALYSIS OF THE DATA.....	90
Introduction	90
Organizational Support Systems	90
Leadership support	91
Departmental and student communication	92
Organizational Obstacles.....	94
Lack of mid-level management involvement.....	94
College-wide inconsistencies	96
Faculty and time reimbursement	98
Essential Design Skills.....	99
Collaborative learning	100
Systemic and strategic thinking	107

TABLE OF CONTENTS (Continued)

	<u>Page</u>
Difficulties of Curriculum Redesign	112
Difficulties in comparing the current to the new program	112
Lack of faculty consensus	114
Pace of the process	114
Staying focused and motivated	116
Key Learning Activities	117
Use of Stories	119
Use of Metaphors	121
Use of Visual Tools	123
Strategic Planning	125
Challenges of Real Life Application	126
The Process Continues	128
Findings Summary	130
CONCLUSIONS AND RECOMMENDATIONS	133
Introduction	133
Major Findings	133
Recommendations	137
Recommendations for Further Study	139
Summary	140
BIBLIOGRAPHY	141
APPENDICES	153

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
2.1 The Dick and Carey Model	29
3.1 Data Gathering Process	72
4.1 Program Map Creation	103
4.2 Yarn Sculpture.....	106
4.3 Zoom	119
5.1 Curriculum Reform Model.....	138

LIST OF TABLES

<u>Table</u>	<u>Page</u>
2.1 Behavioral Objectives	28
2.2 Strategic Thinker Skills.....	38
2.3 Outcome-Based Education Elements	41
2.4 Traditional vs. Constructivist Classroom.....	56
3.1 Faculty Member Demographics	86
4.1 Essential Design Concepts and Skills for Outcome-Based Curriculum Reconstruction.....	100
4.2 ESL Outcome-Based Curriculum Implementation	129

LIST OF APPENDICES

<u>Appendices</u>	<u>Page</u>
Appendix A Curriculum Redesign Documents.....	154
Program Outcome Guide.....	154
Course Outcome Guide Example.....	156
Capstone Research Project.....	158
Affinity Diagram Example.....	159
Sample Unit/Lesson Plan	160
Appendix B Mechanistic vs. Living Systems Model.....	162
Appendix C Bamboo Tree Metaphor	163
Appendix D Zoom Box	164
Appendix E POG Song	165
Appendix F Faculty Surveys	167
Appendix G Compilation of Interview Questions	180
Appendix H Informed Consent Document.....	182

FACULTY DEVELOPMENT FOR OUTCOME-BASED CURRICULUM REFORM IN THE COMMUNITY COLLEGE

CHAPTER 1

INTRODUCTION

As we continue to proceed into the 21st century, community colleges are finding themselves under an accreditation mandate to modify their basic processes of constructing curriculum and assessing student learning. The mandate is a result of a larger accountability movement sweeping the country at all levels of educational practice. This educational reform movement is affecting accreditation standards and placing community colleges under new guidelines for curriculum construction. Even without the accreditation mandates, community colleges are beginning to see the limitations of curriculum and assessment of students that focuses on teaching rather than on learning.

As the focus on teaching changes to a focus on learning, new accreditation standards emerge, and the accreditation process helps colleges rethink their academic practices. The accreditation process recognizes colleges for performance, integrity, and quality, that entitles them to the confidence of the educational community and the public (Commission on Colleges, 1999). The cyclical process requires that colleges and programs continually examine their goals, operations, and achievements.

In the face of accreditation mandates and a desire among some faculty members to move to a greater focus on student learning, the community college in this study, hereafter referred to as Northwest Community College (NWCC), chose to reexamine its

own goals, operations, and achievements in response to this new accreditation criterion. In 1997, NWCC hosted the Northwest Association of Schools and Colleges for an accreditation visit. As a result of this visit, NWCC developed a four-year assessment plan that outlined the goals, outcomes, and assessment measures for the college. To implement this plan, the college spent several years heavily engaged in numerous faculty development efforts.

The purpose of this study was to examine the process of faculty development as it pertains to curriculum redesign and to involve faculty members from one discipline in the change process. The change process at this college was faculty driven and supported by leadership. Another purpose for engaging in faculty development was to ensure that all faculty and staff would be aware of what it really means to place student learning first within the college.

The curriculum reconstruction (also referred to as redesign and reform) efforts focused on three levels within the organization: the college level, the program level, and the course level. At the college level, faculty members developed a common language for the change desired, revised templates for curriculum construction, and prepared internal facilitators for the faculty development process. At the program level, Area Curriculum Committees (ACCs) worked to define learning outcomes, align courses with the intended program outcomes, and develop a capstone learning assessment process. At the course level, faculty defined intended student learning outcomes, created contextual assessment tasks, and moved toward participative learning strategies.

This study focused on one faculty team within a community college that was undergoing curriculum reform and curriculum redesign. The study followed one faculty

group as they learned how to redesign curriculum at the program level based on intended learning outcomes.

The first chapter establishes the background for the study, clarifies the research purpose, identifies the importance of the study, reviews the research questions, and provides background information on the college. It also examines the faculty and the staff development effort in relation to the project. In addition, assumptions, limitations, delimitations, and definitions of terms for the study are defined.

Background

Prior to the 1960s, the dominant framework for designing curriculum in community colleges was based on a model in which the primary focus was the course content that the teacher would attempt to cover. The role of the instructor was to impart knowledge, and the role of the student was, more often than not, to be a passive funnel into which the data were poured. Additional information came predominately from textbooks, and assessments consisting of quizzes and tests that were averaged together to determine a student's grade.

In the early 1960s, as a direct response to global competition and the space race, educational theorists and practitioners embraced a behavioral model for curriculum construction. Robert Mager, in his popular book *Writing Behavioral Objectives*, led the way in curriculum reform through the development of behavioral objectives for all instruction. Mager (1962) described three key characteristics of behavioral objectives, specifically 1) saying what the learner is expected to be able to do (moving the focus from instructor to learner); 2) describing the important conditions under which the

performance is to occur; and 3) describing the criterion of acceptable performance (p. 2). This last characteristic focused on developing and assessing measurable results. Mager contended that behavioral objectives were central to the whole curriculum building process.

Curriculum design, as proposed by Mager and other theorists, focused on identifying many things the learner could do at the end of a course (or program) rather than what content the instructor would be expected to cover. The design over-emphasized behavioral objectives and placed little concern on understanding, personal meaning, and what the student would be able to do outside the academic context. The curriculum was narrowly constructed to predict only how the student would be able to perform on tests.

Mager's behavioral objectives metamorphosized into what would later become known as "competencies" in the 1970s, then "outcomes" in the 1990s. Still based on a theory of behaviorism, these focused on the prediction of measurable response by the learner.

At the time that Mager was first promoting the development of behavioral objectives, the government, also, was looking critically at education. The United States was involved in a nationwide debate over education, and competition with the Soviet Union was on the rise. Through cause and effect thinking, the government blamed the education system for not producing better students, and thus for preventing the United States from launching a satellite system before the Soviet Union.

In 1958 President Eisenhower, frustrated with the state of the education system and its assumed shortcomings, backed what was known as the National Defense

Education Act (NDEA). He believed that this act would begin to produce better student achievement results. The NDEA funded laboratories and the use of textbooks in public schools, as well as loans for college-bound students (Diamond & Bates, 1997, p. 4). The aim of the National Defense Education Act of 1958 (as well as of the "back to basics" movement of the 1970s) was to produce measurable behavioral results.

Funding provided by the NDEA gave educators money to improve their curriculum and learning environments. Money was allocated with the intent that teachers would become better educated on how to write behavioral objectives and create programmed assessments. One result of the behavioral agenda was the creation of the first teaching machines.

Teaching machines in the 1960s consisted of programmed instruction that was "self-paced and did not require teacher intervention. Subject matter was sequenced from simple to complex, and students interacted with the materials by responding to a series of incomplete statements" (Gredler, 1997, p. 54). Although subject matter was more tightly controlled than ever, programmed instruction began to shift the focus away from the teacher and allowed the student to guide and direct his or her own learning.

Programmed instruction of the 1960s did create more of a focus on the student, but generated little concern for what students understood. According to Mager (1962) the word "understand" was not clear enough and could lead to too many interpretations (p. 11). Therefore, a list of objectives was to be created in order to help students be aware of what was expected of them. Based on the list of objectives or competencies, the instructor's role was to check off objectives and keep track of student progress. The role of the student was to pay attention and perform. The objective and competency based

movement led to more and more reduction of the curriculum and to the demonstration of miniscule and insignificant tasks. Still, the behavioral model took hold throughout education, especially in professional and technical programs of the community college.

Theorists who were concerned with the long-term transformation of student learning opposed the behavioral practice of Mager. According to Bruner (1960), "the psychology of learning tended to become involved with the precise details of learning in highly simplified short-term situations and thereby lost much of its contact with the long-term education effects of learning" (p. 4). Critics like Bruner believed the behavioral approach did not promote learning that was meaningful and connected. Bruner and others discussed alternative approaches to curriculum design in the 1960s.

As a cognitivist, Bruner (1960) and his colleagues emphasized going beyond behavioral objectives to creating understanding "in a way that permits many other things to be related to it meaningfully" (p. 7). Bruner was calling for an "instructional theory that would describe principles for the design of effective classroom instruction" (Gredler, 1997, p. 52). Bruner (1960) and his colleagues identified four themes they contended were critical to the learning process: 1) the importance of structure, 2) a readiness for learning, 3) the nature of intuition, and 4) the desire to learn and how this desire might be stimulated. These four themes reflected a change in instructional theory and teaching methods that would begin to transform the way students learned in the classroom environment.

Bruner and his colleagues had the foresight to see what effect global competition and the funding from the NDEA would likely have on the educational system. According to Bruner (1960) "an increasing emphasis on technological progress and

federal aid in the interest of coping with the competitive crisis that America must face as a world power, are likely to lead to one result that has questionable consequences for American education and American life" (p. 77).

The popularity of behaviorism from the past was the basis for much of the educational reform that occurred between 1960 and 1985. Since 1985, educational reform has taken a somewhat more balanced perspective, retaining an emphasis on measurable results from the behaviorists, while at the same time reinstating cognitive and constructivist theories. It is this balance that characterizes the "outcomes" movement.

In reality, what "outcome-based education" (OBE) shares with the behavioral movement of the 1960s and 1970s is an emphasis on what learners are able to do with what they learn. The operational term here is "do." Outcome-based education is based on the belief that learning must not be just for the sake of learning, but must result in some observable performance or product. Carefully constructed criteria are applied as standards to judge the learner's performance, but are not the only means of assessment.

Although outcome-based education shares some of the concepts of behaviorism, it also reflects constructivist theory. The term constructivism refers to "several perspectives that view knowledge as a human construction" (Gredler, 1997, p. 57). Theorists such as Piaget, Brede, and Vygotsky all focused on constructivist theory, but hold different views on its meaning and application in the classroom. What all three theorists have in common is that they focus on the individual learner and how he or she constructs and develops his or her own knowledge.

Outcome-based education, as practiced today in the K-12 system and community colleges, is distinguished from behavioral objectives and competencies. The greatest

distinction is in the degree of prediction and control. A curriculum that is based on behavioral objectives or competencies will be expressed in large numbers of very specific tasks. It is not unusual in a competency-based curriculum for a student to have to demonstrate hundreds of separate tasks. As a result, learning tends to be fragmented.

Learning outcomes identify what students can do with what they learn in the larger context of life. Learning outcomes are not fragmented like behavioral objectives and competencies. Like mission statements for an organization, they are complex and rich. They require the students to synthesize his or her knowledge, understanding, and skills in meaningful and significant tasks. According to Stiehl (2000), outcomes curriculum development is a process of asking four essential questions. These are:

1. What do my students need to be able to do "out there" (Rest of Life – ROL), that we are responsible for "in here" (course/program/college)?
2. What can my students do "in here" to demonstrate the intended outcomes?
3. What skills do my students need that are essential to the outcome?
4. What do my students need to understand in order to demonstrate the intended outcome?

These questions represent an enormous change for many curriculum developers. Faculty who have formerly seen curriculum as a set of topics to be covered, must learn to see it instead as a student's journey toward an intended destination. Faculty who see curriculum as a list of unrelated competencies must put these back together again to form a larger picture of the real intent of the learning.

As faculty members learn to envision the results of learning outside the classroom, they begin to think systemically about learning. Systems thinking for a faculty member is the process of looking at contextual and environmental issues, boundaries, and connections, allowing for a better understanding of the relationships that exist between the classroom and the student's life outside the classroom.

Statement of Purpose

The purpose of this study was to document a community college faculty development process through which the faculty learned to redesign their curriculum around significant learning outcomes and authentic assessment strategies.

Through the process of a qualitative observational case study, the researcher documented the story of the faculty team under study. The documentation focused on the faculty learning processes, the strategies that impacted their learning, the significant breakthroughs that emerged, and the environmental and contextual factors that affected the success of their work.

Importance of the Study

Change in any organization is costly. Attempting to change the community college curriculum to an outcomes-based model is no exception. At NWCC alone, more than 70 area curriculum committees involving more than 350 faculty members were laboring through the reconstruction process. NWCC had chosen to invest in faculty development activities to help them move beyond their current capabilities. This study provides a comprehensive description of the curriculum reform change process for one

faculty team at NWCC. The change process includes what faculty had to learn, what strategies helped them learn, the kinds of support systems necessary for the new curriculum to be designed and implemented, and the complexities and difficulties that the faculty faced along the way. In addition, this study will tell how faculty members struggled to learn new concepts and how to apply them.

While the findings of this study will not necessarily be generalizeable to other colleges or academic programs, the comprehensive description will provide insights that are important to the implementation of outcome-based education in any community college. The following research questions helped to guide the study.

Research Questions

The researcher identified two areas of inquiry to guide her study. Within these two areas, the researcher developed specific questions that assisted her as she observed the participants and contextual issues surrounding the study. The inquiry focused on 1) the institutional environment and support systems in place, and 2) the faculty learning process. The following questions guided the study:

Institutional support systems

1. What kinds of organizational support systems were necessary for faculty to move through the curriculum change process?
2. What organizational obstacles made the curriculum change effort difficult for faculty?

Faculty learning process

1. What faculty skills were essential to building learning-centered, outcome-based curricula?
2. What strategies used by the consultants were considered by the faculty to contribute the most to their ability to develop a learner-centered, outcome-based curriculum?
3. What part of the curriculum redesign process did the faculty find most difficult and why? What kind of assistance were they given, and what kind of assistance did they think they needed?

It is important to note that these questions only guided the study. Other questions that emerged throughout the study are identified in the chapter on research findings. The researcher identified key assumptions, limitations, delimitations, and terminology that were important for the study.

Assumptions

This study was based on the following assumptions:

1. Society is asking for and demanding measurable results from all educational colleges, including community colleges. Since the National Defense Education Act of 1958 and the National Commission on Excellence in Education declared the United States a nation at risk in 1983, the question of the quality of education has been at the forefront of American society.
2. Evidence of learning outcomes will be increasingly tied to revenue distribution. The English as a Second Language (ESL) program at NWCC was under state

mandate to provide evidence of mastery. Without this evidence, funding might be cut and could affect members of the faculty team, as well as other budgetary issues.

3. Faculty development activities can affect change in curriculum and assessment practices. Collaborative learning efforts can be more powerful than individual learning efforts.
4. Reconstructing curriculum and instruction to focus on learning outcomes involves a significant change that requires new ways of thinking for many community college faculty members.
5. Conditions within an organization can affect a faculty member's ability to change curriculum and assessment practices. The support of the entire organization is important if change is to be effected throughout the system.
6. Faculty will need a new set of skills to design a learner-centered, outcome-based curriculum.
7. Although Outcome-based Education (OBE) and Competency Based Education (CBE) appear, on the surface to be similar, they are based on different theories of learning.
8. Many faculty members with years of experience in an instructor-centered classroom have difficulty embracing the change to OBE models.

Limitations

Limitations are issues or concerns that can inhibit the research. The limitations of this study included the following:

1. The participants had a personal stake in the changes that were to be made to their courses. This stake could have limited their ability to "think outside of the box" and their ability to let go of previous practices that were not applicable to this new model.
2. The study was limited to the ongoing work of two specific consultants. Both consultants participated in conducting this study and were co-investigators for the research project. Essentially, both consultants had a vested interest in the study and also in the outcomes for the participants and the community college.
3. The researcher was an integral part of the research. Hence, the researcher evaluated the findings and recommendations within her framework of reference and experience. The researcher did much of the documented observation. She interviewed a small number of outside administrators to gain contextual information.

Delimitations of the Study

Delimitations place a limit on the scope of the study. Delimitations of this study included the following:

1. This study was delimited to a one-year time frame and focused on an instructional program in an urban community college. Outside of administrative staff, no attempt was made to interview or observe persons in other disciplines in the same or different colleges.

2. The study consisted of a total of twenty-three part-time and full-time faculty members. The group consisted of faculty from all four campuses who taught different courses within the program.
3. Leaders at the college were interviewed to establish the context and the history of the curriculum project, but no in-depth interviews were conducted beyond the group studied. The main data collection method used was observation, and a total of five interviews were conducted within the college.

Definition of Terms

1. Accountability – The college is responsible to stakeholders for the results it produces. The college defines its intended outcomes and provides appropriate information about results to key stakeholders (Stiehl, 2000, p. 65).
2. Alignment – The process of looking at the system to ensure that the parts are in agreement with the whole.
3. Area Curriculum Committee (ACC) – Internal faculty members trained by the consultants to be curriculum development facilitators.
4. Authentic Assessment Tasks – Students are engaged in applying skills and knowledge to solve real-world problems (Wiggins, 1989).
5. California Assessment Systems and Standards (CASAS) – Instruments used to test ESL students in California.
6. Course Outcome Guide (COG) – A curriculum tool that identifies the course intended outcomes, assessment tasks, skills, themes, issues, and concepts.
7. Collaborative learning – Strategies and activities where students work and learn together in teams to accomplish intended outcomes (Stiehl, 2000, p. 67).

8. Competency – A term mistakenly used as a synonym for “outcomes.” If used at all in outcome-based curriculum planning, it should be used as a synonym for a “skill.”
9. Complexity – Composed of interconnected or interwoven parts that give the whole an intricate structure.
10. Concept – A mental construct that frames a set of examples sharing common attributes using high-level ideas that is timeless, universal, abstract, and broad (Erickson, 1995).
11. Constructivism – A process that requires teachers to “focus on depth of understanding and to assume a supporting or reflective role while students develop meaning for themselves and engage in critical thinking and problem solving” (Iran-Nejad, 1995, p. 17).
12. Context – The environment, or larger system, of which the educational organization is a part, from which it receives its resources, and to which it is accountable (Stiehl, 2000, p. 65).
13. Deep Ecology – A philosophy that recognizes the fundamental interdependence of all phenomena and the fact that, as individuals and societies, we are all embedded in (and ultimately dependent on) the cyclical processes of nature (Capra, 1996, p. 6).
14. Depth of Instruction – Teaching higher levels of thinking related to a significant concept and theme, problem, or issue by connecting ideas across disciplines to extend understanding, find answers, foster generalizations, and create new knowledge (Erickson, 1994).

15. Interdisciplinary – A variety of academic fields sharing a common, conceptual focus for study (Erickson, 1994).
16. Learning Outcomes – Statements of what students will be able to do outside the classroom, with what they have learned in the classroom. The statements should be clear enough to be understood by the stakeholders and significant enough to drive the curriculum (Stiehl, 1999, p. 65).
17. Outcome-Based Education (OBE) – An educational system in which intended learning outcomes drive the efforts of the entire system. OBE is accomplished by determining what outcomes students should achieve, doing everything to help students achieve those outcomes, and assessing the results (Stiehl, 2000, p. 65).
18. Paradigm Shift – When things are seen as new and different by people looking with familiar instruments in places that have never been looked at before (Kuhn, 1996, p. 111).
19. Program Outcome Guide (POG) – Identifies the prerequisites, courses, capstone assessment tasks, and overall intended outcomes of an academic program.
20. Process Skills – Internal student abilities that develop in sophistication over time (Erickson, 1995).
21. Strategic Thinking – The obvious precursor to any strategy development or planning session. The process begins with exploration of the environment and is an intuitive, visual, and creative process that results in a synthesis of emerging themes, issues, patterns, connections, and opportunities. It has two major components – insight about the present and foresight about the future (Sanders, 1998, p. 162).

22. Systems Planning – The ability to look at the larger context of a situation or project, and develop steps, actions, and key processes to implement.
23. Systems Thinking – A framework for looking at interrelationships and patterns of change over time (Senge, 1990).
24. Total Outcomes Performance System – A testing system built to track the students and their performance gains.

Summary

The purpose of this study was to document a community college staff development process for reconstructing curriculum around significant learning outcomes and authentic assessment strategies.

This chapter detailed the purpose and the importance of the study. In addition, background information was provided to give a larger context for the situation under study.

Chapter Two contains a review of the literature related to the emergence of behaviorism vs. constructivism learning theories. In addition, outcome-based learning is defined along with authentic assessment, key learning strategies, and the transformation process that changed the environment from teaching to learning.

CHAPTER 2

LITERATURE REVIEW

Introduction

For the past 300 years, the predominant worldview that has influenced western society and its actions has been reductionistic and mechanical. This worldview perceived people and things as isolated parts. This view of the world has shaped every branch of western society. There is much evidence today that a more ecological and holistic focus is emerging. This new view "recognizes the fundamental interdependence of all phenomena and the fact that, as individuals and societies, we are all embedded in and ultimately dependent on the cyclical processes of nature" (Capra, 1996, p. 6). The current challenge for higher education to be more responsive to the real needs of society is one indication of this new holistic perspective. Outcome-based curriculum redesign is one response to this challenge.

Since the publication of the United States Department of Education's *Nation at Risk* report in 1983, much has been written and discussed about the state of education. In fact, at least twenty-five other major national reports were issued in the 1980s, calling for substantive changes in American schools and colleges (Parnell, 1990). One aspect of change focuses on the process of curriculum development, which has not changed dramatically over many decades.

College curriculum development has largely reflected a reductionistic worldview methodology. The curriculum has consisted of organized subject matter, structured by

the disciplines. The curriculum has dealt primarily with predetermined, logically organized skills or bodies of knowledge that students were expected to absorb. Our traditional education process, indeed our theory of knowledge in the West, is based on reductionism, fragmenting complex phenomena into components, and building up specialized knowledge of the parts. Moreover, our traditional education process is based on competition and individual learning (Senge, 1997, p. viii). As a result, the educational process has not promoted teamwork and interdisciplinary approaches to learning. According to Sears and Marshall (1990), "the curriculum is carefully planned and organized prior to classroom engagement, content is selected and logically organized, often in the form of a textbook, teachers are trained to present it efficiently and effectively, and student learning is objectively measured as a way to determine the effectiveness of the curriculum" (p. 8). What Senge, Sears, and Marshall describe as the college curriculum development process is an isolated exercise conducted by experts with little connection to personal, family, and work needs.

Many factors have influenced the changes that are taking place in curriculum development today. According to Erickson (1995), these factors include global perspectives and understanding, the need to communicate clearly, and the need to relate well interpersonally in a multicultural society and a technology oriented world marketplace. Higher education must reflect these factors within the curriculum design process by creating new models that will prepare learners for today's society both locally and globally.

New models for curriculum development are needed in education. Terry (2000), "emphasizes the social dimensions of learning; the teamwork that it involves; that it's

participatory and experiential; and that education, if it is like business, must shed its manufacturing mindset and begin to operate as a service" (p. 306). Inherent in these new models is a strong sense that educators must revisit where they have been and where they should be going in order to meet the needs of society and its learners. The new models also will do a better job of preparing learners for the workplace than past models did.

Much of the pressure for curriculum change is coming from the workplace, which is demanding that higher education prepare learners in new ways. Costa and Liebmann (1997) believe that tomorrow's workplace will require more flexibility, customer focused mindsets, decentralized control, labor-management cooperation, delegation of authority to workers, and work teams of multi-skilled workers. If this is true, then K-12 as well as higher education curricula must organize around process skills that cover all disciplines. Priorities should reflect the following criteria identified by Costa and Liebmann: (1) developing thinking skills; (2) using the self-assessment process, which is integral to learning; (3) providing opportunities for students to actively construct knowledge for themselves; (4) creating learning environments that develop cooperative problem solving; (5) making sure that skills that are learned in the context of real problems; (6) creating a learner-centered, teacher-directed environment; and (7) developing outcomes in which all students have learned how to think. Aligning college curriculum around these process skills will require new strategies for educators. The strategies are different from past strategies, which will be discussed in detail within this chapter. This chapter will place current college curriculum reform efforts in a recent historical context and establish more completely the nature of the current efforts to change.

The Mechanization of Learning

The concept of mechanization dates back to Rene Descartes of the seventeenth century, who developed the method of analytic thinking. Before Descartes, "Aristotelian natural philosophy and Renaissance Naturalism shared a belief in nature's active participation in the world through the interconnectedness of mind, matter, and spirit" (Sanders, 1998, p. 44). Based on Aristotelian philosophy, the world was viewed as an organic, living, and spiritual mindset. Descartes changed that mindset and replaced Aristotelian philosophy with the metaphor of a machine. Descartes used the machine metaphor to explain nature and promote the separation and classification of knowledge into discrete departments. Kepler and Galileo used the mechanical metaphor to describe the Copernican universe, which was quantifiable.

Another metaphor used to illustrate a mechanical world was the clock. The clock became the man-made method of measuring time. Capra views the clock as a "closed system," which settles into a state of thermal equilibrium. This is to be distinguished from open systems, which "maintain themselves far from equilibrium and are characterized by continual flow and change" (p. 48). Capra maintains that a closed system will eventually run down and grind to a halt as a result of entropy and disorder. Since the mechanical machine metaphor philosophy was introduced, humans have been breaking things down into parts trying to describe the parts instead of the whole, an approach that tends to break down the entire system. This philosophy was the nature of the Scientific Revolution.

The initial work of Galileo and Descartes paved the way for Newtonian mechanics as a part of the Scientific Revolution. Isaac Newton incorporated what

Galileo and Descartes framed by viewing the world as a "perfect machine governed by exact mathematical laws" (Capra, 1996, p. 20). This concept completely changed the old paradigm of the sixteenth and seventeenth centuries, thus changing the worldview to a closed system. The Newtonian thought consisted of a "closed, self-contained, mechanical system, and one that had no environment" (Ackoff, 1994, p. 5). The concept of a closed system began to impact the way in which the workplace and workers were managed. The workplace began to break work down into small steps by creating assembly lines, which did not allow for human interaction, problem solving, or mental stimulation. The clock managed the order of the workers day, and their place in the assembly line managed their work output and respective identity.

Ackoff (1994) believed that "mechanization led to the dehumanization of work" (p. 7). This mechanization phenomenon took hold during the industrial revolution and has influenced the workplace ever since. Following the mechanical factory model, schools in the western world became industrialized disseminators of information and knowledge (Ackoff, p. 200). During the middle of the 20th century, a number of educational leaders emerged to further promote reductionistic thought in educational planning. Curriculum development efforts were based on a thriving behavioral theory of learning that embraced a mechanistic worldview.

In the early part of the 20th century, Frederick Taylor further dehumanized the workplace through his idea of time studies and "soldiering" of employees, called scientific management. The goal of scientific management was to break down the elements of any task and study the time associated with performing each of those tasks. Soldiering was a practice by which the workers would agree on a common work pace,

much like soldiers on parade. The workers were then expected to work and be evaluated at the pace that was established. This approach to scientific management aligned with the mechanistic view of the world where workers were associated with only a very small part of a whole process. The mechanistic worldview also impacted the way in which workers learned their jobs. Workers were taught only part of a process and never saw the entire picture. Behaviorism was the dominant learning theory during this era and influenced the workplace and the classroom.

Behavioral Theory

When John Watson "launched the movement to study behavior rather than mental processes or states," (Gredler, 1997, p. 17) reflex and classical conditioning were the dominant methodologies. Classical conditioning is the process by which "new events or stimuli acquire the power to trigger responses" (p. 19). Watson believed that the human personality developed through the conditioning of various reflexes. In this theory, instead of being viewed in context of the whole person, a person's behavior is broken down into compartments to facilitate a better understanding. Watson's beliefs were mirrored in the concept of Frederick Taylor and the mechanistic view of workers.

Other theorists associated with behaviorism included Thorndike, Skinner, Tolman, Guthrie, and Hull (Gredler, 1997). They adhered to three basic assumptions:

First, observable behavior rather than internal thought processes is the focus of study; in particular, learning is manifested by a change in behavior. Second, the environment shapes one's behavior; what one learns is determined by the elements in the environment, not by the individual learner. And third, the principles of contiguity (how close in time two events must be for a bond to be formed) and reinforcement (any means of increasing the likelihood that an event will be repeated) are central to explaining the learning process (p. 126).

Edward Thorndike contributed the concept of connectionism, also known as the S-R theory of learning, in which learning is described as a link between stimulus and response. B. F. Skinner contributed the concept of operant conditioning. Operant conditioning means "reinforce what you want the individual to do again; ignore what you want the individual to stop doing" (Merriam and Caffarella, 1991, p. 127). This approach was very paternalistic and continued to promote a dominant relationship between the teacher and the student.

In the 1960s, the work of Thorndike and Skinner was applied to the practice of curriculum development in education in the form of behavioral objectives, programmed learning, teaching machines, notions of instructor accountability, emphasis on behavioral measurement, and, eventually, in the 1980s, competency-based instruction. According to Merriam and Caffarella (1991), "the systematic design of instruction, behavioral objectives, notions of instructor's accountability, programmed instruction, computer-assisted instruction, and competency-based education are all grounded in behavioral learning theory" (p. 128). What is important to note is that all of these educational initiatives grew out of a worldview that was reductionistic. Educators found themselves operating in an educational system that was partitioned into isolated disciplines and asking students to perform unrelated tasks with little meaning and understanding. Much of this occurred in a relatively short period of time with high fiscal support from the federal government. It is also important to understand the political environment of the 1950s and 1960s as it influenced these behavioral practices.

The Political Environment

In the late 1940s; early 1950s, America emerged from two decades of depression and war, the most significant baby boom of the century was underway. At the same time, an educational boom was also taking place. President Harry Truman sought to emphasize education by approving the Marshall Plan and the creation of the Fulbright program. The Fulbright program went on to become the nation's foremost international exchange program.

Frustrated with the state of the education system and its shortcomings, President Eisenhower backed the National Defense Education Act (NDEA) of 1958. The NDEA funded laboratories and textbooks in public schools and provided the federal government's first low-interest student loans for college-bound students (Diamond & Bates, 1997, p. 4). The NDEA was considered a milestone in the history of American education.

The Soviet Union's introduction of Sputnik provided the impetus for much of the political and financial backing for the NDEA. Supporters saw the United States falling behind the Soviet Union not only in space exploration but also in many aspects of technology and education. These supporters looked to educational reform to help save American society from the Soviet scientists. One of the goals of the NDEA was to provide broad opportunities for the intellectual development of all children by strengthening courses of study in science, mathematics, and foreign languages, and by developing new graduate programs to train additional teachers.

Behavioral Objectives: Drivers of Curriculum Development

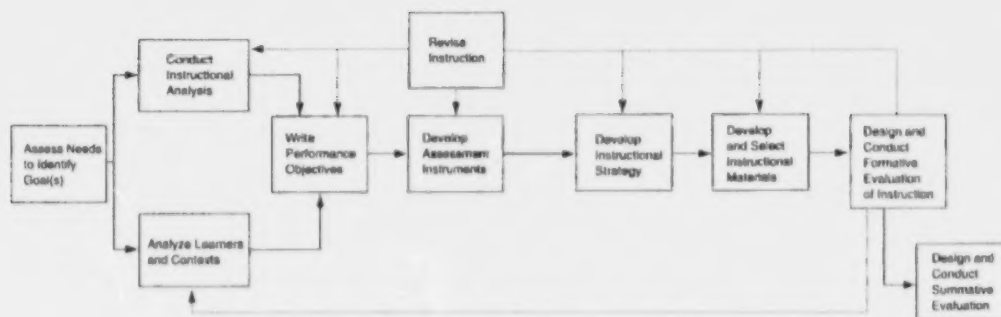
During the era of the National Defense Education Act (NDEA), behavioral objectives became the drivers of curriculum development. They represented a significant departure from “fuzzy” instructional goals, or goals that focused on instructor performance rather than on student performance. Behavioral objectives, as described and supported by Mager in his 1962 publication of *Writing Behavioral Objectives*, predict and measure student behavior. The curriculum design process is one of deciding what behaviors are desired, under what conditions the behaviors will occur, and what standard the behaviors must meet. A well-developed and planned curriculum could easily consist of hundreds of seemingly unrelated behavioral objectives, demonstrated out of context, and not linked to the overall goals of the curriculum.

The movement to write behavioral objectives was broadly accepted, especially in K-12 education. Table 2.1 identifies rationale that supported behavioral objectives as defined by Rothwell and Cookson (1997, p. 157).

2.1 Behavioral Objectives

- They describe precisely what learners are expected to know, do, or feel upon program completion. The significant word here is "precisely."
 - They help establish evaluation criteria to measure and distinguish adequate from inadequate participant performance.
 - They focus participants on desired program results so participants can in turn organize their own efforts and activities.
 - They reduce participant anxiety and frustration by clarifying desired program outcomes.
 - They permit instructors to identify participants who lack necessary prerequisite abilities.
 - They help participants determine how well they have achieved mastery of what they learned.
 - They ensure consistency and agreement between what is learned and what is evaluated.
 - They help instructors to appropriately sequence planned learning activities.
 - They supply evidence of systematic planning to support participant learning.
 - They provide a basis for instructor accountability and responsibility.
 - They help other program planners during program design when the tasks of designing and delivering programs are divided between two groups of program planners.
-

While these reasons seem sound, they are still manifestations of reductionism and industrial-age thinking that do not meet the needs of learners.



2.1 The Dick and Carey Model *

As early as the 1970s, Dick and Carey (1978) presented a model (see Figure 2.1) that they believed encompassed a systematic approach to learning and was driven largely by behavioral objectives. Although there are many models that present a systematic approach to learning, their model exemplifies a pattern of continued reductionistic thinking that is linear and systematic in its visual and practical presentation. This prescriptive model, along with numerous others, proposed a process of curriculum development that reflected the western worldview of the 1960s and 1970s.

Dick and Carey (1978) coined the term "instructional objective" which, in their definition, is the same as behavioral and performance objectives. The definition created by Dick and Carey to describe a behavioral/instructional objective was "a detailed description of what students will be able to do when they complete a unit of instruction" (p. 119). Mager (1984) and Dick and Carey promote three essential parts of an

*The Dick and Carey model from "The Systematic Design of Instruction" by W. Dick and L. Carey, 1978. Copyright 1996 by Walter Dick and Lour Carey. Reprinted with permission of the authors.

instructional objective: (1) skills or behaviors that will be identified; (2) conditions that will prevail while a learner carries out the task; and (3) criteria that will be used to evaluate learner performance. It is important to note that the entire focus is on what the student can do "inside" the classroom, rather than in a larger context.

Other theorists, such as Bloom, worked toward changing the way in which behavioral objectives were written. Bloom et al. (1981) observed that "the process of writing or selecting clear, specific, behavioral statements of objectives requires a teacher to think quite seriously about the changes he or she wants to help the student realize" (p. 18). Bloom also maintained that clear objectives must be presented initially to the students, although additional or modified objectives could emerge from the instruction. Stating the objectives initially helped keep the student focused, clarified communication between teacher and student, and made the assessment process easier.

Although Mager, Dick and Carey, and Bloom all worked toward creating a model that would assist educators with the process of curriculum design, the work was largely reductionistic and did not ultimately place the student in the center.

An Ecological Understanding of Learning

Arne Naess was the first philosopher to incorporate and use the term "deep ecology" in a published paper. Published in 1972, the paper was titled "The Shallow and the Deep, Long Range Ecology Movement." Naess identified "shallow ecology" as the then current perspective and trend in society of fighting pollution and resource depletion. Deep ecology went to a different level and focused on biocentrism. The biocentric

perspective stated that humans are only part of the "web of life" and equal with others in the world, including non-humans.

According to Capra (1996) deep ecological awareness "recognizes the fundamental interdependence of all phenomena and the fact that, as individuals and societies, we are all embedded in, and ultimately dependent on, the cyclical processes of nature" (p. 6). The ecological paradigm goes beyond the whole-to-parts concept that most theorists use to define systems thinking because it further delineates that the natural environment is embedded in everything we do and helps us understand that we as humans are a part of a larger whole.

Educators have largely failed to incorporate concepts about the environment and its contextual issues into the learning process and have mainly been working from a behavioral framework. It is the incorporation of the contextual issues that sets today's faculty development efforts apart from those of the past.

Curriculum development models that are emerging in the 21st century are reflecting greater contextual and systemic thinking. Mary Beal (1999) developed a three-dimensional curriculum design model that was "contextual, iterative, and non-linear" (p. 156) and incorporated the significant influences of the environment. While Dick and Carey saw the process of curriculum design as linear, Beal contends that the process of curriculum design is nonlinear, connected, and interdependent. In her research, Beal demonstrates that the linear models of the past are unrealistic in practice and do not respond to the ever-changing environment.

Beal's curriculum design model includes other essential elements not found in behavioral models of the past including continuous communication, alignment,

teamwork, and reference to disturbances in the context, which, in her opinion, have the greatest effect on complex curriculum design processes. The disturbances are contextual elements that cannot be predicted or controlled. Examples of the disturbances include team turnover, budget and space changes, and purpose changes. Planning for the disturbances is typically not a part of the curriculum design process. More important, curriculum design will require greater flexibility and a new way thinking about the planning and development process.

Systems Thinking

The concept of systems theory is not a phenomenon new to the 21st century. According to Brethower and Dams (1999), "systems thinking has been fashionable for more than 30 years" (p. 37). Unfortunately, it has not been fashionable in educational planning until recently. The lack of systems thinking in education is due partly to the isolation of the disciplines that is typical of the infrastructure in a college of higher learning in the western hemisphere.

Systems Theory defines a system as a "complex of interacting elements" (Bertalanffy, 1968). Others describe systems thinking as "part-to-whole and whole-to-part thinking about making connections between both system elements and systems and their subsystems so they fit together into a whole that generates value-added outputs" (Brethower, 1982; Kaufman, 1998). Miller (1978) proposes that systems thinking is more than just thinking. He believes that systems thinking "provides a conceptual framework that can enhance decision-making and improve cost-effectiveness in a wide range of applications" (p. 71). In general, systems theory rests upon many assumptions

that focus on the whole and its interrelated parts, the organization of the system, the complexity of the system, the relationships, the notion of boundaries, and the hierarchical nature of those systems (Bowler, 1981). Educators have only recently begun to understand these assumptions and apply them to curriculum design.

Ackoff (1994) acknowledges several factors that have influenced the emergence of systems theory. Those factors include (1) a higher level of education of workers in business and industry; (2) a higher level of aspiration by workers; (3) an increase in government regulations; (4) an increase in union involvement; and (5) an increasing demand for technology that requires corporations to obtain external funds for investment. The funds come from the public through public trade offerings. As a result "corporate managers become aware of the need to take into account the concerns, interests, and objectives of the people who were part of the systems they manage and the larger systems that contain them" (p.15). Ackoff's views are based on systems theory and its assumptions, which consider the integration of the parts to the whole and the interrelationships that occur within the system.

As stated earlier, one of the main assumptions of systems theory is that nothing exists in isolation, but that everything is part of a larger whole. While this thought is not new, it has begun to penetrate the heart and soul of many organizations with a call to systems thinking strategies. This interest is exemplified by the popularity of a book written by Peter Senge called *The Fifth Discipline* in which he coined the term "learning organization." Still, higher educational colleges have been slow to respond. Senge (1997) states that "educators have to develop a sense of connectedness, a sense of working together as part of a system, where each part of the system is affecting and being

affected by the others, and where the whole is greater than the sum of its parts" (p. 128). Senge's message reflects an approach that is parallel with Capra's philosophy of an open system.

Ackoff (1994) defines a system as "a whole that contains two or more parts that satisfy the following five conditions" (p. 18). The five conditions are as follows: (1) the whole has one or more defining functions; (2) each part in the set can affect the behavior or properties of the whole; (3) there is a subset of parts that is sufficient in one or more environments for carrying out the defining function of the whole; each of these parts is separately necessary but insufficient for carrying out this defining function; (4) the way that the behavior or properties of each part of a system affects its behavior or properties depends on the behavior or properties of at least one other part of the system; and (5) the effect of any subset of parts on the system as a whole depends on the behavior of at least one other subset. Ackoff's main premise is that once a part is taken away from the whole, it can never be the same. For example, slice an orange into quarters, then try to put it back together as it was originally. According to Ackoff, it will never be the same orange it was originally, making the concept of systems thinking complex to understand and apply when designing curriculum. Crowell (1995) agrees that "complexity is everywhere in educational practice! The reality of the classroom is that it is multilayered, without a beginning or an end" (p. 14). Crowell states that "self-organization in education implies that each individual learner is continually ordering or making sense of their experience" (p. 15). This type of thinking relates back to the concept of creating a "real-life" experience for the learner so he or she can see connections, boundaries, and relationships that exist within a system.

Strategic Thinking

Strategic thinking and systems thinking are closely linked together. Strategic thinking is embedded in the entire curriculum design process and is about establishing connections and creating alignment. Often, educators develop curriculum in segments or parts that are not necessarily connected to the intended outcomes of the whole program. It is not enough simply to know where we are headed in one course; we must also show how the course aligns with a larger purpose. Strategic thinking helps learners understand where they are going in the course and how learning activities are aligned with intended results.

Strategic thinking is not something educators can do once and forget about. Having a plan is not enough. Strategic thinking goes beyond merely having a plan to being flexible enough and having enough insight and foresight to change the plan when necessary.

Mintzberg (1994) states that planning falls under several definitions. To some, planning is perceived as future thinking, while to others, it is controlling the future or decision-making. Mintzberg continues to define planning in his own terms as "a formalized procedure to produce an articulated result, in the form of an integrated system of decisions" (p. 12). This definition sounds behaviorist, but it describes a strategic planning process that allows for flexibility and emergence. The various forms of strategy include intended strategy, deliberate strategy, unrealized strategy, realized strategy, and emergent strategy (p. 27). The strategy that aligns best with open systems thinking is the emergent strategy concept. Based on this approach, the curriculum designer can develop a lesson plan that allows for emergent practices and situations to infuse in the course.

The designer builds in contingency plans that allow for this emergence and contextual disruption, enabling the curriculum to reflect a systems approach, and further allowing for built-in flexibility.

One of the main problems with a plan is often the inflexibility of the plan. Once a plan is articulated to others, according to Mintzberg (1994), it is more difficult to make changes within that plan. Another pitfall of planning is the need for control within the process. The control issue links back to the behaviorist approach to teaching. Mintzberg states, "Perhaps the clearest theme in the planning literature is its obsession with control of decisions and strategies, of the present and the future, of thoughts and actions, of workers and managers, of markets and customers. An obsession with control generally seems to reflect a fear of uncertainty" (p. 202). This uncertainty is what many educators fear. Dehlen and Welsh (1997) believe that "class sessions offer opportunities for the unforeseen and unpredictable to happen rather than implementation of contrived strategies to transfer information from instructor to student notebooks" (p. 5). An educator who allows for uncertainty and emergence need not sacrifice the intended learning outcome.

In order to think strategically, leaders must be "active, involved, connected, committed, alert, and stimulated. It is the calculated chaos of their work that drives their thinking, enabling them to build reflection on action in an interactive process" (Mintzberg, 1994, p. 291). Liedtka (1998) describes strategic thinking as creative, disruptive, future-focused, and experimental in nature. Liedtka continues to suggest five major attributes of strategic thinking in practice. These attributes include (p. 20): (1) Having a systems or holistic view. Strategic thinking is built on the foundation of a

systems perspective; (2) Focusing on intent. Strategic thinking is intent-driven; (3) Thinking in time. Strategic thinkers link past, present, and future; (4) Being hypothesis-driven. Strategic thinking mirrors the "scientific method" in that it deals with hypothesis generating and testing as central activities; and (5) Being intelligently opportunistic. Channeling organization efforts effectively and efficiently is balanced against the risks of losing sight of alternative strategies.

Sanders (1998) described seven key principles of strategic thinking as defined by the new science (p. 79). The seven principles are: (1) whole systems should be looked at, not just their parts; (2) there is a relationship between order and disorder, and self-organizing change occurs as a result of their interactions; (3) a small event in one sector can cause tremendous turbulence in another; (4) maps, models, and visual images make it easier to see connections, relationships, and patterns of interaction; (5) scanning across disciplines and industries is the key to seeing emerging conditions, paradigm shifts, and opportunities for innovation; (6) nonlinear thinking is critical to recognizing clues about changes in the environment; and (7) perspective is important when viewing chaotic events. Sanders points out several principles she believes to be key elements for curriculum reform. Her focus on interdisciplinary scanning and visual imagery are powerful ways to reform thinking.

Strategic thinking allows the teacher, when necessary, to go beyond the curriculum and subject discipline at hand. Allowing for interdisciplinary approaches and contextual thinking helps students see purpose, be more comfortable with chaos, and self-organize their learning. Becoming a strategic thinker is not easy and does not come

naturally to many educators. The process requires skill and takes considerable time to master.

Linkow (1999) conducted a research project that identified the skills required of a strategic thinker. Table 2.2 identifies those skills and defines their meaning (p. 37).

2.2 Strategic Thinker Skills

Skill	Definition
Reframing	Involves challenging and restating the underlying beliefs and assumptions on which organizational relations and actions are based.
Scanning	Is a constant, staccato search for information that is based on the current assumptions and future of an organization.
Abstracting	Is the ability to grasp the essential theme or synergy in disparate bits of information – and in such a way that leads to action.
Multivariate thinking	Is the ability to balance many dynamic variables simultaneously and discern the relationships among them.
Envisioning	Is the ability to see future states as vivid visual images.
Inducting	Is the ability to form beliefs, assumptions, and generalizations quickly from concrete and often sparse observations.
Valuating	Is seeking to know and understand the underlying values, beliefs, and attitudes held by current and potential stakeholders.

These skills are all complex and often difficult to apply in actual settings. However, they are central to developing learning-centered outcome-based educational programs.

Systems thinking and the research in strategic thinking has laid the foundation for a more contemporary view of outcome-based curriculum design.

Outcome-Based Education

Spady (1992) defines a learning outcome as follows:

A demonstration of learning that occurs at the end of a learning experience. It is a result of learning, and an actual visible, observable demonstration of three things: knowledge, combined with competence, combined with orientation. Further, this demonstration happens in a real-live setting, and is, therefore, influenced and defined by the elements and factors that make up that setting, situation, or context (p. 6).

Ultimately, Spady claims that outcome-based education is about preparing students for life, not simply about getting them ready for college or employment (Brandt, 1993). It is an educational approach that requires broader thinking.

Whereas learning outcomes are often equated with learning objectives, competencies, performance objectives, and, previously, behavioral objectives, Stiehl (2000) maintains they are different in that outcomes come from answering one basic question: What do my students need to be able to do "out there" (ROL – Rest of Life) that we are responsible for "in here" (course/program/college)? An outcome-based curriculum means educators thinking about the results "out there" for their learners. Competency- and objective-based education focuses on what students will do in the classroom, rather than in the world at-large.

Numerous other authors have distinguished learning objectives from learning outcomes. According to Erickson (1994), competencies and objectives are measurable and are usually assessed through paper-and-pencil multiple choice or short answer tests,

and focus on what the teacher wants students to know, with the primary focus being on the mastery of content information. Outcomes, according to Erickson, incorporate the following characteristics: (1) they tell what you want students to be able to do and are applied across the critical content of what you want students to know; (2) they are measured developmentally through performance assessments; (3) they focus on personal process abilities or competencies, such as the ability to think or communicate; (4) they develop skills for "lifelong learning;" (5) they rely more on individual measures of achievement than on standardized measures; (6) they require successful performance that is dependent on a context of developmentally appropriate content; and (7) they state and describe a framework that specifically describes one or two broad content outcomes in addition to four or five process outcomes. These characteristics of outcomes align with the ecological approach to teaching, which helps learners discover meaning and apply what they learn to their world.

In addition to the characteristics described by Erickson, Stiehl (1995) identifies the eight major elements of an outcome-based education course plan as outlined in Table 2.3.

2.3 Outcome-Based Education Elements

-
- A course description that indicates what the learners will be able to do as a result of the course
 - The identification of significant performance task(s) that students will be expected to accomplish as evidence of their learning
 - A summary of content derived from the intended outcome
 - Specific process skills that are developed and used by students to demonstrate the desired outcome
 - The use of a variety of learning resources and learning activities for which the students have major responsibilities
 - A schedule of activities in which students assume increasing responsibility for learning concepts and process skills
 - Ongoing self, peer, and instructor-directed assessments of performance
 - Standards that will be applied to the outcome(s)
-

What Stiehl outlines is a strategic way of developing curriculum. The plan she outlines looks at not only the contextual aspects of the learning process but also the path(s) that will lead to the intended outcomes. Helping faculty focus on intended learning outcomes as opposed to competencies and learning objectives forces them to put school work in context, thus giving it real purpose in the minds of students and stakeholders.

Learning Strategies for Systemic and Strategic Thinking

An outcome-based curriculum requires that college faculty see the world systemically and think strategically in their planning. The two approaches are both important and complement one another when applied to curriculum development and teaching. The learning strategies that are most effective in developing these thinking

skills include visualization, reflection, storytelling, metaphors, collaborative learning, and critical thinking. Identifying the strategies that help faculty in the transition is an important part of the curriculum reform process. Individual learning styles and preferences often define the way in which faculty teach others. Therefore, when working with faculty members through a curriculum reform process, it is important to integrate learning strategies and activities that will help them see the bigger picture and become more strategic in their own planning process.

There are numerous learning strategies that can be used to help faculty develop systemic and strategic thinking skills, and apply them to curriculum development. One learning strategy deals with visual and spatial processing. According to Sanders (1998), "our challenge is finding a way to engage our visual processing abilities to see and understand the multiple complexities – the unseen relationships, connections, and patterns of interaction – that are creating the dynamics of the real world in which our decisions are being made" (p. 98). According to Clarke (1991), "visual tools are symbols graphically linked by mental associations to create a pattern of information and a form of knowledge about an idea" (p. 21). The visual/spatial strategy embodies the concept of systems thinking through the emphasis on connections and patterns, which is at the heart of constructivism. Helping faculty recognize the relationships, connections, and interdependencies is critical in a redesign process. This involves faculty constructing visual maps of the curriculum. According to Hyerle (1996) "visual tools guide thinking when we need to simultaneously pay attention to the whole and analyze whether the parts are, indeed, interdependent and interconnected" (p. xi).

Visual tools are an extension of Ausubel's graphic organizers. Ausubel believed that graphic organizers provide a conceptual framework and also facilitate encoding and organization for the learner (Gredler, 1997). He maintained that the human mind follows logical rules for organizing information into respective categories (Ivie, 1998). His theory postulates that cognitive structures are built by the teachers in order to hold new information, and that having a cognitive structure that is clear and well organized will help the learner with retention and make learning new pieces of information easier. The cognitive structure allows for the learners to reflect on their learning through a visual pathway. Without the visual pathway, students can become lost in the unfamiliar process. According to Hyerle (1996), utilizing visual tools in the learning environment can accelerate learning to new levels and improve communication. "The addition of visual tools to ever more inclusive classrooms is showing potential for transforming how ideas, knowledge, dialogue, and meaning are created, communicated, and assessed" (p. 12). Incorporating the use of visual tools can greatly enhance communication and ultimately transform thinking.

Morgan (1993) draws attention to the construct of imaginization in the visualization process. Imaginization and various "modes of visual imaging can break the constraints of an organization's conventional discourse and create the new space or new ground on which new developments can be built" (p. 234). According to Morgan, organizations that allow for creative and "out of the box" thinking will experience greater potential for continued success. This raises questions about the potential of imagination as a contributor to effective curriculum development. The challenge is to find ways to stimulate thinking and push the faculty in ways that promote new and creative ideas.

One stimulating thinking experience is to visually map an existing program. Mapping an existing program may help faculty visually see the relationships, interdependencies, and disconnects within their current curriculum.

Miholic (1998) promotes the use of photography as a visual tool to stimulate critical thinking. He found that "photography can promote critical thinking, by identifying and assessing the dimensions of an issue, appreciating point-of-view, and weighting conclusions, inferences, and interpretations" (p. 111). Through the use of a picture, a person can learn to better visualize and construct meaning. In addition, he found that the picture did not have to be a realistic photograph but merely some sort of image to promote critical thinking.

Vaccaro (1997) perceives imagery to be a cognitive behavior tool that can improve learning performance by enhancing concentration and promoting self-discovery. His research has focused on the study of whether imagining a successful outcome of a performance immediately prior to performing that activity increases the likelihood of success.

Visualization can be an internal or an external process. Romance and Vitale (1999) promote the use of concept maps to help participants explicitly and externally express their ideas and thoughts. Romance and Vitale promote, "the use of concept-mapping activities as a way to organize and represent knowledge" (p. 74). Studies have shown that concept mapping can result in improved outcomes and increased participant involvement (Cliburn, 1990; Zeilik et al., 1997; Ruiz-Primo & Shavelson, 1996). Concept mapping has also been called mind-mapping. Mind-mapping is a tool that visually organizes thoughts around a main topic or idea. Other visual tools include

brainstorming webs, affinity diagrams, task-specific organizers, and thinking-process maps (Hyerle, 1996).

Based on the literature, an important question is whether visual tools can provide a common framework and language for a faculty as they move through the process of reconstructing curriculum. How can consultants incorporate such tools in the process to help faculty think systemically and strategically? How will the faculty perceive these tools and which tools will prove to be most useful? All of these questions are central to this study.

Another skill that is essential for curriculum reconstruction is critical thinking. According to Paul and Willson (1993), critical thinking is "a unique kind of purposeful thinking in which the thinker systematically and habitually imposes criteria and intellectual standards upon the thinking" (p. 21). Posing open-ended questions is one method of integrating critical thinking into any learning situation. Beyond the questions themselves, facilitators can challenge the responses of the participants by asking for evidence or examples that support their responses. Another method for encouraging critical thinking is to incorporate challenging assignments. Challenging assignments that integrate thoughtful and engaging questioning will help participants produce knowledge that is new to them. Productive learning activities also provide considerable opportunities for sustaining critical thinking (Beyer, 1998). Activities such as judging the accuracy of a given claim or body of information, or generating a strong argument in support of a conclusion may require only a few work sessions. Productive learning activities can keep the participants engaged in the critical thinking process long after the session has been completed.

Active participation is considered by many to be essential in keeping adults engaged in learning. Browne (2000) found that it is important to create conditions that allow for participation rather than isolation and passivity. The effective facilitator will provide avenues for the participants to be engaged with the materials being presented. In a faculty development effort such as the one under study, how essential is active participation, and how do effective facilitators achieve it? What strategies do the participants find most engaging?

Reflection is a strategy that is also encouraged in order to promote more effective learning. The process of reflection is directly related to the process of critical thinking. When participant are asked a question, they typically spend some time in thought rather than responding immediately. This is the time learners spend in reflection about the information they have just heard or seen. Mezirow (1998) believes that reflection is a "turning back on experience and can mean many things: simple awareness of an object, event, or state, including awareness of a perception, thought, feeling, disposition, intention, action, or of one's habits of doing these things" (p. 186). In order to understand the meaning of what is being communicated, the learner must critically reflect on his or her own assumptions and beliefs.

Daudelin and Hall (1997) found that reflection is a tool that can help leverage learning. Reflection, according to Daudelin and Hall, can (p. 13):

- Help surface insight and learning themes from events or experiences.
- Help link learning with job performance.

- Provide more thoughtful, personal feedback than is possible through traditional evaluation approaches.
- Foster a sense of community.
- Help to synthesize learning in a way that makes it easy to share learning with others.

The types of activities that can be used to foster reflection include journals, learning logs, learning-oriented conversations, and group dialogue sessions.

Another form of reflection is a strategy called Action Reflection Learning (ARL). ARL promotes collaborative learning through the use of real-life scenarios. Marsick et al. (1992) describe ARL as a strategy in which the participants are “supposed to interact with small work groups for the resolution of the problem at hand, acquire skills in critical thinking and learning, develop the skills that a given project demands, and help participants fashion their own management, leadership, or employee empowerment theories” (p. 63). Accordingly, action reflection learning is a “learning by doing” alternative to expert-based training where participants solve real business problems under actual work conditions. Within action reflection learning programs, participants are able to work collaboratively with others, sharpen their critical thinking skills, and build skills that emerge as a result of the activity.

The use of metaphors and stories to develop faculty understanding of curriculum as a “system” is of particular interest in this study. A metaphor is a sophisticated form of communication, that “allows us to understand one domain of experience in terms of

another" (Lakoff & Johnson, 1980, p. 117). Metaphors (Grasha, 1990) "tend to organize our thoughts and provide directions for our actions in a variety of settings" (p. 6).

Metaphors are also a part of our everyday life. According to Lakoff and Johnson (1980) metaphors "are pervasive in everyday life, not just in language but in thought and action" (p. 3). The belief is that the human conceptual system is metaphorically structured and defined. The concepts that make up our conceptual systems, structure what we perceive, how we get around in the world, and how we relate to other individuals, all connect to the metaphorical composition.

Lakoff and Johnson (1980) maintain that the metaphor is similar to another term, "structural similarity." Structural similarity "involves the way we understand how individual highlighted experiences fit together in a coherent way" (p. 150). Without this similarity, the individuals who are being presented with the metaphor may not understand how it is congruent or fits into the content they are learning.

Metaphors are often used to stimulate creativity, build knowledge structures, develop interpretations, and create personal meaning. Sackmann (1989) found that metaphors can "influence thinking, feeling, and construction of reality in ways that facilitate organizational transformation and can trigger a perceptual shift" (p. 468). The metaphors help participants think about a situation, then correlate it to their own world. The result is usually something participants do not forget because of the impact of the metaphor and its meaning.

When a story is told, a metaphor is often at the center of what is being communicated. The metaphor helps the listeners visualize the story through the connection of something they are familiar with from their own experience. Elspeth &

McKay (1999) performed a study that indicated graphical metaphors tend to improve a participant's performance more than pure textual metaphors. Connecting a story with a metaphor can be a powerful strategy in a learning environment.

According to Collins and Cooper (1997) "storytelling creates for our listeners a sense of mystery, of wonder, of reverence for life. Perhaps most important, storytelling creates a relationship" (p. 1). Abrahamson (1998) found that storytelling appears to help learners "think critically and understand factual content in a personalized fashion" (p. 440). The use of a story also helps learners engage in cooperative inquiry as they begin to discuss, as a group, the meaning and application of the story.

Storytelling has been a way of life for many cultures and for many centuries. Cultures use stories to preserve their heritage and history. Storytelling is seen as a means "of bringing together the lives of people, thus creating a sense of community and shared understanding" (Abrahamson, 1998, p. 440). There have been many great storytellers through time. Homer, Plato, Jesus, and Gandhi, to name only a few, have used stories, myths, parables, and personal history to instruct, to illustrate, and ultimately to guide the thinking of their students. In our age, Milton H. Erickson has been coined as a great genius of storytelling. Erickson, a master hypnotherapist and teacher, explained himself through the use metaphors and stories. According to Abrahamson (1998), he used anecdotes as metaphors to "effect what often seemed to be miraculous learning on the part of the students and patients" (p. 443). Part of his success was to support the desired change with a story and/or metaphor so learners and patients could understand how the point connected to the learning in the classroom and in the therapy session. His style exemplifies the importance of connectivity in a larger context. Brookfield (1995)

proposes that "teaching is ultimately a connective activity" (p. 43). The strategies of visualization, metaphors, storytelling, and critical thinking all promote connectivity in learning. However, storytelling is an art and a science all in one.

Authentic Assessment

Redesigning curriculum to be more student-centered, systemic, and strategic, is a critical aspect of outcome-based curriculum design. Another critical factor in the curriculum redesign process is the incorporation of authentic assessment strategies. Summative assessments that require a learner to regurgitate knowledge in order to receive a grade are a common practice in educational institutions of higher learning. This "testing" approach, however, has not been sufficient to determine how the learner might use what he or she has learned outside the classroom walls. According to Evans, (1999) "obtaining accurate results in evaluating higher levels of student learning is the goal of authentic assessment" (p. 616).

One of the primary educational concerns at the beginning of this new century is the need for creative and alternative methods of evaluation that are more meaningful for students and provide assessments that are more qualitative and authentic in nature. Methods such as portfolios, peer evaluation, scenarios, written essays, oral discourse, presentations, periodic feedback sessions, mentoring, and self-assessments are now being implemented in various learning environments. From a systems perspective, evaluation "is neither summative nor punitive. Assessment rather, is a mechanism for providing feedback to the learner as a necessary part of the spiraling process of continuous personal development: self-analyzing, self-evaluating, and self-modifying" (Costa and Liebmann,

1997, p. 36). Assessment then is not just the end of the course; it is integrated throughout the course as an ongoing part of the learning process. By implementing a more authentic assessment process into their program, faculty can help learners leave the classroom with a greater confidence that they can do something in the real world.

Grant Wiggins (1989) has applied the concept of authentic assessments to engage students in applying skills and knowledge to solve real-world problems. This approach moves away from the traditional recall-of-answer approach to take on a new level of learning that is more focused on "real-life" applications and inclusiveness. Wiggins has found that changing the assessment process also changes the relationship between the teacher and the student. The relationship becomes less adversarial and more partner- and ally-focused. Once the teacher is in the ally role, it is easier to focus on the student needs and how best to assess students on the basis of those particular needs. The goal in this relationship would be for the teacher to help improve the performance of the student and not just monitor and grade that performance.

According to Lund (1997), there are seven characteristics of authentic assessment. Authentic assessment (1) requires the presentation of worthwhile and meaningful tasks that are designed to be representative of performance in the field; (2) emphasizes "higher level" thinking and more complex learning; (3) articulates criteria in advance so that students know how they will be evaluated; (4) firmly embedded in the curriculum makes it practically indistinguishable from instruction; (5) changes the role of the teacher from adversary to ally; (6) includes the expectation that students will present their work publicly; and (7) involves the examination of the process as well as the products of learning. Gronlund (1998) agrees with Lund because "authentic assessment stresses the

importance of focusing on the application of understandings and skills to real problems in real world contextual settings" (p. 2). He goes on to propose that alternative forms of assessment replace paper-and-pencil testing, be reality based, and be linked to the intended outcomes of the course.

The most typical established method of classroom evaluation involves tests that are explicitly designed to measure a set of objectives. Dick and Carey (1996) refer to them as criterion-referenced tests. The purpose of these tests is to "test and evaluate students' progress and to provide information about the effectiveness of the instruction" (p. 142). Courses often use pre-and-post criterion related tests to measure progress. The goals of the tests are to measure the "mastery level" of the students to determine how well they demonstrated mastery of a specific skill. This type of assessment leads to "teaching to the test" and does not allow additional, helpful information to emerge. Wiggins identifies this form of testing as a "standardized procedure for eliciting the kind of behavior we want to observe and measure" (p. 13).

In 1981, Bloom et al. described evaluation as (p. 4) (1) a method of acquiring and processing the evidence needed to determine the student's level of learning and the effectiveness of the teaching; (2) a process that includes a great variety of evidence beyond the usual final paper-and-pencil examination; (3) an aid in clarifying the significant goals and objectives of education and a process for determining the extent to which students are developing in these desired ways; (4) a system of corrective feedback that determines at each step in the teaching-learning process whether the process is effective and, if not, what changes must be made to ensure its effectiveness before it's

too late; and (5) a tool in educational research and practice for ascertaining whether alternative procedures are equally effective in achieving a set of educational ends.

It is important to note that as early as 1981 some of Bloom's attributes mirrored a traditional view of evaluation, and others began to move us into more authentic strategies. Bloom also was one of the early voices to promote the process of formative observation. The process provided the learner with an alternative to judge his or her own mastery of learning. This process removed the students from the typical experience of being solely judged by others; instead, they began to judge themselves. Today, self-assessment and peer-assessment are accepted as vital links in a solid assessment process.

College Curriculum Reform: From Teaching to Learning

Educational leaders now have a clear mandate to place teaching and learning foremost on the educational agenda and to repair the neglect of the past and prepare for a new future (O'Banion, 1994, p. 22). The distinction of accountability and accreditation to promote high-quality learning has helped to shift the focus in community colleges from teaching to learning. In a community college curriculum redesign effort, the learner is placed at the center of the effort, and the learning exceeds the importance of teacher and teaching.

Constructivism is a term used by educators to describe a shift away from a reductionist understanding of learning to a constructing and building understanding of learning. Constructivism is not a new concept in the field of education. The concept can be traced to the 18th century Neapolitan philosopher Giambattista Vico, who concluded that humans could clearly understand only what they have constructed.

Jean Piaget and Lev S. Vygotsky have been described as the original constructivists. Piaget maintained, "human intelligence constructs the cognitive structures it needs in order to adapt to the environment" (Gredler, 1997, p. 58). Vygotsky emphasized that cognitive capabilities lead to higher mental processes. Hence, there are differing thoughts about the concept of constructivism. In addition, John Dewey's progressive model concluded that education depends on understanding of meaningful experiences. Dewey also emphasized the unique and individualized nature of interaction in the learning experience. He believed, as do many cognitivist theorists, that new knowledge is built upon prior knowledge and that experience is unique to every learner. Dewey promoted the active participation of the learner in defining the learning environment and conceived of the instructor as facilitator (Boettcher and Conrad, 1999, p. 21).

Sutherland (1998) has observed that the "familiar, traditional transmission model of teaching, whereby information is transferred from teacher to learners, and in which learners play passive roles, is gradually being replaced by a model based on constructivist learning theory" (p. 30). Prickel (1999) uses the term constructivism to describe the conditions when "knowledge is constructed through the interactive involvement of the person, his or her mental and physical processes, and the environment exposure to practitioners and practices" (p. 7). Thus, a person's entire self is immersed into the learning process. The person becomes a part of the learning process and not just a sponge soaking up what the instructor imparts. The endorsement of constructivism in the 1990s appears to be a reaction to the long endorsement of behavioral theory in industrial practice. According to Gredler (1997) "constructivism emerged in part because

educators and others were concerned that students were learning isolated, decontextualized skills and information" (p 57).

New curriculum models focus on the learner and the construction of knowledge and meaning. Briggs et al. (1998) identified the differences between a traditional and a constructivist-learning environment (see Table 2.4). In a constructivist environment, the teacher placed the learners in the center by promoting problem solving, collaborative learning, and real-world activities. In a traditional environment, the teacher was the center of the classroom, strictly guided the events and activities, and did not allow for collaborative learning.

2.4 Traditional vs. Constructivist Classroom

Traditional	Constructivist
Learner primarily works alone or as passive member of the whole class	Learner is primarily in a "community of learning" group
Competitive environment	Collaborative environment
Curriculum is presented part to whole with emphasis on basic skills	Curriculum is presented whole to part with emphasis on the big concept
Strict adherence to a fixed curriculum is expected	Pursuit of student questions is valued; experience-based activities
Curricular activities rely heavily on textbooks and workbooks of data	Curricular activities rely heavily on primary sources and students' interaction within them
Predefined problem space	Active problem-solving of real conditions
Learners perform well-defined exercises in textbooks and on exams	Learners recognize and resolve ill-defined problems that come in real-world activity
Learners are viewed as "blank slates" onto which information is etched by the teacher	Learners are viewed as thinkers with emerging theories about the world (cognitive apprenticeship)
Teachers disseminate information; students are passive	Teachers behave in an interactive manner and mediate the environment
Teachers seek the correct answers to validate student lessons	Teachers seek the learners' points-of-view in order to understand student learning for use in future conceptual framework

Note. Briggs, J., Burton, M., & Todd, D. (1998). *Constructivism*. Unpublished manuscript, Oregon State University.

Clements (1997) proposes still another view. He maintains that constructivism is a philosophy of learning that offers a perspective on how people learn at all times (p. 198) as opposed to only in the classroom environment. Constructivism is a way of living on a daily basis. The challenge for educators is to help learners engage in higher-order thinking skills in and outside the classroom, while the specific strategies used by the educator will depend on the situation and the learner. Iran-Nejad (1995) says that "constructivism in education means that teachers will embrace a holistic way of thinking about the nature of learning, something quite apart from the methodology of direct instruction" (p. 17). He contends "constructivism requires teachers to focus on depth of understanding and to assume a supporting or reflective role while students construct meaning for themselves and engage in critical thinking and problem solving" (p. 17). Clements and Iran-Nejad both look at constructivism from a holistic perspective, which integrates individuals and the environment in which they live.

Although creating meaning individually is an important part of the learning process, collaborative learning promotes constructivism at a group level. Working with others and creating meaning together can produce even higher levels of learning. "Peer collaboration is essential to the learning process, as learners construct meaning and understanding through active participation and sharing of knowledge" (Sutherland, 1998, p. 31). Based on this premise, it is evident that curriculum redesign requires a collaborative effort in addition to constructing meaning.

Chang and Mao (1999) assert that cooperative learning has its theoretical underpinnings in social constructivism, which "encourages students to work together in small groups and to use a variety of activities to improve their understanding of subject

matter and achieve academic objectives," (p. 340). Several techniques used in a study by Chang and Mao included member research teams, group projects, and group presentations, all of which promote collaboration.

Collaborative learning does not just happen by itself. In order for it to be successful, educators must have a strategy to implement the process within their classrooms. Thompson and Taymans (1996) have developed a methodology for facilitators to follow when using collaborative learning for staff development purposes (p. 81). This methodology includes (1) having a clear system for managing behavior; (2) teaching faculty the specific interpersonal skills necessary for group participation (listening, feedback and peer evaluation, sharing the load of work, sharing materials, using resources, conflict resolution, and group management); and (3) teaching faculty how to perform the specific roles and procedures expected within different collaborative structures.

Accreditation

Accreditation is a relatively new phenomenon impacting education and other professions in the last several decades. As the public begins to demand better education and more accountability, accreditation standards have emerged. So what does accreditation mean to education? Accreditation is "a self-enforced political force in education that has the power to bring about enormous change" (O'Banion, 1994, p. 22). Accreditation associations are established through non-governmental, voluntary institutional, or professional associations that have responsibility for establishing criteria. They visit and evaluate colleges at the request of those colleges, and accreditate colleges

and programs that meet the established criteria. One important function of these accreditation associations is to encourage colleges to maximize educational effectiveness.

The accreditation process has begun to hold colleges accountable for achieving and reporting results. Through the accreditation process colleges are recognized for performance, integrity, and quality that entitle them to the confidence of the educational community and the public (Commission on Colleges, 1999). The process requires that colleges and programs examine their goals, operations, and achievements for continuous improvement.

The value of quality is at the centerpiece of the accreditation process. The National Council on Post-Secondary Accreditation narrows the discussion of quality into three key concepts (Parnell, 1990, p. 153): 1) the appropriateness of its objectives; 2) the effectiveness of the use of resources in pursuing these objectives; and 3) the degree to which objectives are achieved. If a college can define and describe these concepts within acceptable standards, it will be accredited by the council.

The Commission on Colleges is the accreditation governing body, which identifies and defines standards, policies, and procedures for all of the regional associations. According to the Commission on Colleges (1999), the overall goal of accreditation at the post secondary level is intended to fulfill the following purposes (Commission on Colleges, 1999):

- Foster excellence in post-secondary education through the development of criteria and guidelines for assessing educational effectiveness;

- Encourage institutional improvement of educational endeavors through continual self-study and evaluation;
- Assure the educational community, the general public, and other agencies or organizations that a college has clearly defined and appropriate educational objectives, has established conditions under which achievement of those objectives can reasonably be expected, appears to be accomplishing them to some degree, and is so organized, staffed, and supported that it can be expected to continue to do so;
- Provide counsel and assistance to established and developing colleges.

The accreditation process has resulted in a surge of higher educational colleges rethinking and redesigning their programs and institutional outcomes.

The college in this study aligns itself with the Commission on Colleges of the Northwest Association of Schools and Colleges. This association is one of six similar regional associations in the United States that accredit schools and colleges. According to the Commission on Colleges of the Northwest Association of Schools and Colleges, being granted institutional accreditation means that "a post-secondary college's own goals are soundly conceived, that its educational programs have been intelligently devised, that its purposes are being accomplished, and that the college is so organized, staffed, and supported that it should continue to merit confidence" (1999, p. 2). Hence, the college looks at its program from parts to whole and whole to parts.

The Workforce Investment Act of 1998 is also affecting the accreditation of community colleges. The Workforce Investment Act allows for legislation to put a

number of new provisions into place. These provisions include 1) allowing states (if they choose) to allocate a portion of federal training funds to underwrite skills-upgrading for employed individuals; 2) establishing employer loan funds to help finance worker skill improvements; and 3) the centerpiece of the new system: creating work-force investment boards, which are new mechanisms for employer input on government-funded training programs (Griffin, 1999, p. 189). These provisions are designed to help improve the educational systems currently in place.

One major result of the Workforce Investment Act is the accountability that is built into the program. Proof of how the educational programs are working is gathered at state and local levels. Based on the performance and results of the programs, incentive grants are awarded. With this in mind, it becomes critical for community colleges to begin to develop student outcomes and incorporate assessments to continue to obtain the incentive grants.

In 1988, Ernest Boyer chaired a meeting for the commission on the future of community colleges (Parnell, 1990) that prepared five recommendations that focused on assessment of student outcomes, institutional effectiveness, and accountability through the 1990s. Those recommendations were: (1) classroom evaluation should be the central assessment activity of the community college. The process should be strengthened through faculty development programs that focus on the use of classroom evaluation to improve teaching; (2) each community college should develop a campus-wide assessment of institutional effectiveness. The assessment would include reexamination of mission goals, specific programs, individual student outcomes, retention rates, and the performance of graduates; (3) faculty and administrators should be involved in defining

in explicit terms the educational outcomes the college aspires to produce for its students; (4) college-wide assessment processes should be designed to ascertain the extent to which desired outcomes are achieved in a student's literacy skills, general education, and area of specialization. In addition, faculty should devise appropriate new assessment procedures, including locally developed examinations, student projects, performances, portfolios, and oral presentations; and (5) colleges should consider further evaluation of the impact of programs by conducting periodic interviews or surveys of current students, graduates, and employers of graduates.

Staff Development

If major curriculum changes are to be made, staff development must become a priority for higher education. If this does not happen, higher education will continue to follow a model that is teacher-centered rather than learner-centered. The changes that are envisioned for curriculum reform must involve faculty in ways that are dramatically different from staff development efforts in the past.

Typical staff development efforts consist of one-time training sessions or isolated learning activities that do not apply to staff organizational or departmental needs. As interesting as training sessions can be, faculty members would prefer other forms of intellectual stimulation and growth. Part of this stimulation is to allow the staff to be more involved in the efforts for change taking place at the institutional and program levels. According to Schlechty (1990), in order to gain the support of staff during reform efforts, the following values must be incorporated into the plan. These values include the need 1) for positive recognition and affirmation; 2) for variety, both intellectual and

professional; 3) to feel that what one does makes a difference and that doing things differently will make a difference as well; and 4) for affiliation, collegial support, and interaction (p. 88). The values that Schlechty presents outline the need for a collaborative approach to curriculum reform. Redesigning a program in isolation or with little or no staff involvement will ultimately be unsuccessful.

Involving staff with the larger change efforts helps them understand the system and contextual issues that are affecting the college. Without this larger picture, faculty may not be aware of those issues and therefore not support the changes at their level. Hence, staff becomes more involved at a systemic level of reform. Sparks (1997) defines systemic reform as "simultaneously addressing all aspects of the educational enterprise – curriculum, instruction, assessment, leadership, parent involvement, school structures and governance, teacher preparation, and professional development" (p. 3). Sparks emphasizes that the most important aspect of any system is the connections; hence, he encourages a systems perspective on curriculum reform. Part of the staff development process is allowing the time for faculty to meet together to discuss, reflect, share, and support one another in their learning efforts. According to Murphy (1997), many faculty are not given the time to actively pursue these strategies of collaborative learning.

Summary

There is a lack of empirical studies that focus on outcome-based education and authentic assessment. As a result, the literature review for this study focused on a historical overview of learning theory and current trends in outcome-based education.

Western society has evolved through many theories of learning. We have endured the shift from an ecological to a mechanistic worldview and are now returning back to more of an ecological viewpoint. Our mechanistic view involved adherence to strict schedules, time clocks, and a process that dehumanized the learner. In the past fifty years, behavioral theory has held the greatest influence.

The political environment of the 1950s caused a change in how this country viewed teaching and learning. Behavioral objectives were seen as a way to improve student learning, and ultimately help the United States as it faced the great "space-race" and the impending global competition. Even though the "space-race" continues today, an ecological viewpoint, incorporating systemic and strategic perspectives, and the shift and focus on learning and educational reform, is influencing educational practice at all levels.

Outcome-based education has emerged on the educational scene as a result of these changing social views. Outcome-based education focuses on the learner and what he or she is able to do in the real world. Educators who subscribe to the principles of outcome-based education are to modifying their curriculum to reflect systemic and strategic thinking. Constructivist-learning theory supports outcome-based education since it emphasizes the learner and how he or she creates meaning from his or her experiences in the classroom and beyond.

Community college faculty appear to be moving through curriculum reconstruction processes because of both accreditation mandates and a genuine concern for the success of learners. Faculty and staff development appears to be an important factor in curriculum change.

CHAPTER 3

METHODOLOGY

Introduction

The purpose of this study was to document a community college faculty staff development process for reconstructing curriculum around significant learning outcomes and authentic assessment strategies. The study was conducted in a multi-campus community college, with the English as a Second Language (ESL) faculty team.

This chapter describes the research methodology, participants, institutional context, and the process that was used to study the research questions.

Design of the Research

The design of this research is based on a qualitative phenomenological case study model. The researcher chose to employ a qualitative method and collected data through an intensive case study and then subjected the data to analytical induction. Gall, Borg, and Gall (1996) define qualitative research as "multimethod in its focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (p. 28). The researcher believed that studying the phenomena in its natural setting would be meaningful to the study and the field.

The nature of this study was the observation of a phenomenon in its natural setting in which both the participants and the researcher discover the meaning together. Gall, Borg and Gall (1996) are of the opinion that "phenomenological research is experiential and qualitative. It causes educators to seek more accurate empirical investigations by lessening the risk of premature selection of methods and categories. Such preliminary exploration does not supplant but complements the traditional methods of research" (p. 600). Van Manen (1990) views phenomenological research as "the study of the lifeworld – gaining a deeper understanding of the nature or meaning of our everyday experiences" (p. 9). Following the qualitative approach, as opposed to quantitative, allowed the researcher to gain a deeper understanding of the phenomena.

Based on the emergence of the study and the phenomena occurring, it was evident that a quantitative method would not be appropriate for the research design. The quantitative or positivist research approach uses data collection techniques that collect numerical data on observable behaviors of samples and then subjects the data to numerical analysis. This study simply did not lend itself to the collection of numerical data. According to Borg, Gall, & Borg (1996) "quantitative inquiry is grounded in the assumption that features of the social environment constitute an objective reality that is relatively constant across all time and settings" (p. 767). This study focused on a phenomenon that was not constant across all time and settings; the findings of this case study cannot be generalized and transferred to any situation.

A case study is a detailed examination of a setting, subject, depository of documents, or particular event (Merriam, 1988). The case study focuses on a phenomenon and at least one particular instance of the phenomenon. Since a

phenomenon has many aspects, the researcher must determine a focus for investigation. The researcher chose to follow an observational case study design, which focused in depth on a specific group of people working within their natural context and pertained to a specific project (curriculum redesign). This approach allowed for discoveries as opposed to prediction and control.

One advantage to following a case study approach to research is the thick description that the researcher develops. Providing a thick description means including detail regarding the contextual aspects of the study as well as the constructs, themes, and patterns that emerged. Providing thick description allows the reader to determine his or her own perspective as well as understand the perspective of the researcher. This is often referred to as interpretational analysis, which describes the particular phenomenon being studied.

A second advantage to following a case study approach is the ability to show how the study and its design emerges as it progresses. In quantitative analysis, the researcher must establish his or her hypotheses and design well in advance and not change his or her methodology as the data unfolds. In qualitative research, the data is collected and that information is presented as findings of the research study. The study is not as prescribed and predictable as a quantitative study would be and the data gathering techniques are completely different.

The major data-gathering technique used within this study was participant observation, formal and informal interviews (see Appendix G), and review of documents. The researcher spent a total of 120 hours with the participants, which allowed the

researcher to immerse herself in the staff development experience, thus allowing the researcher to gain a deeper understanding of the phenomenon under study.

In a qualitative study, it was important to document the criteria that helped to validate the trustworthiness of the overall study. The criteria included the following:

1. Researcher as the instrument. In this study, it was critical to have the researcher become a part of the team and actively participate in the study. The perceptions of the researcher were an important part of the study and influenced the outcome since data was filtered through the researcher's mind and interpreted by her. In this qualitative phenomenological case study, the researcher was intimately connected with the phenomena being studied and learned more from the experience than had been expected. Through the process of participant observation, the researcher interpreted and filtered the events. The researcher's perspective was continually integrated within the study and the findings. The researcher spent time journaling after each session to reflect and interpret the experiences. Since the researcher was an integral part of the research under study, her presence may have influenced the team's perceptions and impacted the overall results.
2. Validity, triangulation, and member checking.
 - a. Validity. An important characteristic of this study is the thick description provided by the researcher. In order to provide the reader with the contextual aspects of the study, the researcher documented a story, which included visual images and detailed background information. Providing thick description adds credibility to the study. The researcher spent time interpreting the meaning of the phenomena, the number of participants, the order of events, the history, the physical setting, and the

environmental factors. Other aspects of validity include the tacit knowledge that was described within the findings. The researcher paid special attention to the non-verbal interactions that were taking place. The perspective of the interviewees was validated through their careful reading of the written text transcribed from the audiotapes.

Based on their review, the researcher made appropriate changes and edits.

b. **Triangulation.** Triangulation is another way to validate findings. In order to demonstrate the use of multiple data collection methods, the researcher incorporated several approaches. The forms of triangulation used were observation, historical data interviews, surveys, and informal conversations with the participants.

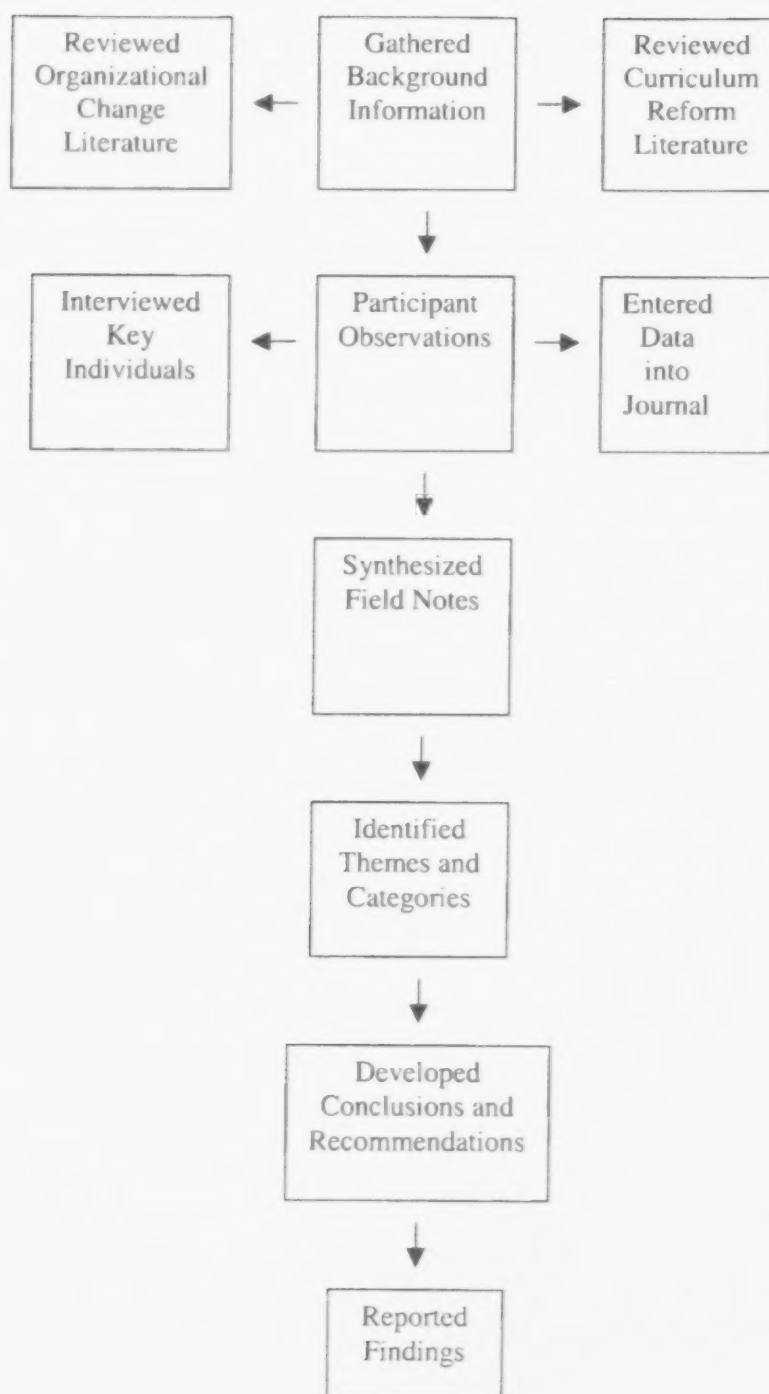
c. **Member checking.** Member checking is also a way to validate findings. In order to complete a case study that incorporates an emic perspective, it is important to validate the research findings with the participants. The researcher shared the findings of the study with the participants in order to insure the study was accurate and complete from their perspective.

3. **Biases within the study.** The Principal Investigator was one of the consultants in the process studied. The second consultant on the project was also involved in the research investigation. This could be interpreted as introducing an element of bias, but was perceived to be an important aspect of the study since a relationship was already built between the consultants and the researcher. The relationship was important because it provided greater access and helped the researcher become more aware of and involved in the process.

Several data gathering techniques were used within this study. The first step in the data gathering process was for the researcher to understand her role and what techniques she would be using for the study.

Data Gathering Techniques

Figure 3.1 depicts the data gathering techniques and research process used by the researcher. The researcher first chose to examine literature on educational reform and organizational change. The literature provided the researcher with theories and technical data to help her understand the historical information that influenced the study. She then employed data gathering techniques to collect information. According to Van Manen (1990), methods to collect this type of data include: (1) interviewing; (2) written responses; (3) surveys; (4) questionnaires; and (5) participant observation. In qualitative analysis, participant observation is a common way of collecting experiential material from others (Van Manen). The researcher decided to use participant observation as her main form of data gathering. She also chose to interview key individuals in the community college and distribute two surveys to the faculty participants.



3.1 Data Gathering Process

According to Lofland & Lofland (1995), participant observation is also called "field observation, qualitative observation, or direct observation" (p. 18). "Participant observation refers to the process in which an investigator establishes and sustains a many-sided and relatively long-term relationship with a human association in its natural setting for the purpose of developing a scientific understanding of that association" (Lofland & Lofland, p. 18). Being a part of the natural setting allowed the researcher to better understand the associations and connections. Throughout the course of the study, the researcher built relationships and connections with participants and was able to spend time with them in their natural setting. Eventually, the researcher felt she had fully integrated herself as a member of the team. The team had accepted her and wanted her to be a part of their team interactions, pictures, and social gatherings.

According to Silverman (1993), there are several principle characteristics that form the boundaries of observational research. Those characteristics are: (1) seeing and understanding events, action norms, and values from the perspective of the people being studied; (2) describing and attending to mundane detail; (3) describing the contextualism, which is the basic message that qualitative researchers convey; and (4) noting the process, which is viewing social life as involving interlocking series of events. These characteristics seem to be fundamental in the qualitative research process. The researcher paid special attention to the events, group norms, mundane details, and contextual aspects that influenced the phenomenon as it occurred.

There are many characteristics of observation. There are also several forms of observation that distinguish the key elements of the process. One in particular is called close observation, where the "human science researcher tries to enter the lifeworld of the

persons whose experiences are relevant to the study material or his or her research project" (p. 68). Close observation, from the researchers perspective, seemed to be the most meaningful approach to qualitative analysis. Entering the life-world of others created a new set of lenses for the researcher as she observed the team in action.

Van Manen (1990) explains that "the method of close observation requires that one be a participant and an observer at the same time, that one maintain a certain orientation of reflectivity while guarding against the more manipulative and artificial attitude that a reflective attitude tends to insert in a social situation and relation" (p. 68). A challenge of this method was the continual ability to vacillate back and forth between participant and observer. The critical role for the researcher was to immerse herself into the experience while maintaining a level of objectivity. Jorgensen (1989) also believed that during the research project, the researcher should undertake dual roles as both the participant and as the observer. However, the immersion and objectivity of the researcher was a challenging aspect to the observation process. At first, the researcher attempted to follow the close observation method. By the second work session, it became evident that this approach was not appropriate. The team had not accepted the researcher at that point and the learning activities were specific to their own work domains.

Denzin & Lincoln (1994) describe another form of observation, referred to as "naturalistic observation" (p. 355). They discuss this approach as an offshoot of participant observation. The authors listed several strategies for naturalistic observation, which included reading cultural material and historical records, incorporating visual methods, and recording personal experience methods. Reading cultural material and its

historical records refers to written texts and its cultural artifacts. Incorporating visual methods refers to the use of film, video, and photography. Recording personal experience methods "reflect the flow of thoughts and meanings persons bring to their immediate situations" (p. 356). Many of these methods were helpful to the researcher, because they brought in the contextual aspects of the research and continued to involve the researcher within the process. The researcher chose to incorporate naturalistic observation through visual methods (photography) and through personal methods (journaling). Throughout the study, the researcher took photographs of the participants to help her visually create her story and she kept a personal journal that detailed her thoughts and feelings after each work session.

An additional research role is known as the complete participant. The complete participant is one where "the researcher studies a setting in which she already is a member or becomes converted to genuine membership during the course of the research" (Gall, Gall & Borg, 1996, p. 345). Gall et al. calls the middle ground between the complete observer and the complete participant the "observer-as-participant role or the participant-as-observer role." In the observer-as-participant role, "the researcher acts primarily as an observer, entering the setting only to gather data and interacting only casually and non-directly with individuals or groups while engaged in observation" (p. 345). The participant-as-observer role is "the researcher observing and interacting closely enough with individuals to establish a meaningful identity within their group; however, the researcher does not engage in activities that are at the core of the group's identity" (p. 345). The last two approaches were more appropriate and flexible for the researcher in this study. Because of the nature of the work with the faculty team, the

researcher ultimately assumed the participant-as-observer role. However, the researcher was cognizant of her role within the study. She occasionally found herself fully involved and actively engaged as a complete participant. At other times, she observed the team in action, watched their verbal and non-verbal behaviors, and paid attention to contextual data within the environment.

Data collection methods during the observation process can vary among researchers. Typical methods of recording observed events are through tape recording, videotaping, writing notes, and using a laptop computer. The role the researcher plays and the way the data is collected can exert influence on participants. The data collection tools used for this study were the laptop computer and audiotapes. At first, the use of the laptop did affect the behaviors of the participants as they questioned what was going on. Over time, the participants became used to the tools and did not appear to let them influence their conversations or activities.

During the data collection process, the observer should begin by using what Jorgensen (1989) calls "unfocused observations." An unfocused observation occurs when the researcher observes all the general features within the new setting. Some of the features may seem trivial and unimportant, however, this information is the "contextual" information that can often be taken for granted once a person becomes immersed in a situation. Once the unfocused observations have been recorded, a researcher can begin to focus more on the specific areas of interest. This was important because meanings can only be accurately understood in a context. In this study, the researcher spent time recording the room arrangements, participant interaction, and structure of the work

sessions. This information provided a greater depth of understanding of the college and the faculty members' dispositions towards one another.

In summary, the researcher chose to follow the participant observation process. Specifically, the researcher chose the participant-as-observer role because it allowed her to become a complete insider. The participant-as-observer role was the appropriate method to follow since it provided the researcher with a way to work closely with the participants while still gathering rich and detailed data.

College and Faculty Group Studied

NWCC is one of the largest metropolitan community colleges in the Northwest. The community college is structured as a one-college system with multiple-campus, and more than 3,000 faculty members across four separate sites. Three of the sites are comprehensive campuses and the remaining one is called an open campus and reports through one of the other campuses. The comprehensive campuses provide lower-division college transfer courses, two-year associate degree programs, and professional and technical career training. The open campus provides job training, adult education, and life-long learning which includes welfare-to-work and alternative high school programs.

The mission of NWCC is to provide quality educational programs and services that are affordable and accessible. NWCC enrolls almost 86,000 students annually and serves more than 898,000 residents in a five-county area. Major policy decisions, budget allocations, curriculum changes, and academic issues for all campuses are centrally controlled within the president's office. Executive Deans lead the three comprehensive campuses. In addition, there is a vice-president who is responsible for administrative

services for each of the campuses. The college is responsive to the district regarding access and efficiency in order to deliver effective instruction to its constituents.

In 1995, NWCC underwent an accreditation evaluation. The accreditation representatives required NWCC to implement more thorough assessments with associated documentation, and NWCC was given two years to develop a comprehensive assessment plan. NWCC worked diligently for two years to determine how the assessments should be done, deciding that the best approach would be to establish meaningful learning outcomes and authentic assessment strategies.

Learning outcomes could not be developed in isolation by individual faculty; all faculty members needed to combine their efforts and develop a conceptual framework. It was determined that a one-time staff development session would not accomplish this purpose, but that the most effective approach would be to train and prepare a number of faculty members on the college campuses as internal curriculum facilitators, with the facilitators assisting other staff persons within their own discipline. The sessions were given the names Learning Outcomes Team I, II and III, and since 1997, this has been the approach that NWCC has taken with staff development efforts.

Since the staff efforts began, all academic programs at NWCC have been working towards redesigning their curriculum and assessment strategies. The first group to complete the redesign process was the Telecommunications Management Program. The redesign of the Telecommunications Management Program tested processes and templates that would be implemented later throughout NWCC, including the program under study in this investigation.

This study was delimited to one faculty group representing all four campuses with subject expertise in ESL. The ESL team consisted of full-time and part-time faculty who had chosen to participate in an extensive redesign of their program. In this study, external consultants worked with faculty members in a series of sessions from April 1999 through March 2000.

The ESL faculty at NWCC was chosen for this study because of their willingness to engage with the consultants throughout the entire reconstruction process. It was more typical for the consultants to prepare internal facilitators, than for faculty members to work directly with the primary consultant as the facilitator. Having the consultants involved on a continuing basis with the ESL team provided a high level of expertise and consistency throughout the process.

The ESL curriculum reconstruction effort was a unique opportunity to observe a process that was intense, arduous, and long. The ESL instructors were willing to spend more than twelve months investing many hours of volunteer time to this project. Also, the program impact was interdisciplinary and affected all campuses. The ESL department realized that this opportunity came at a time when state and national standards were creating pressure on the program to make changes. It was a perfect time to redesign their program to meet and even exceed these new regulations.

An important aspect of this study was the inherent complexity of the process. This process consisted of full-time and part-time faculty members from all of the NWCC campuses. The team met for a year with session times ranging from six to eight hours. Because this was a complete reconstruction of an entire program, requiring significant amounts of time and involving diverse faculty, it was an arduous and complex task.

English as a Second Language: Historical Background

At the time of this study, there were 2,000 students registered in the ESL program on all campuses of the community college. The courses did not generate revenue from the students, making the revenue from the state critical to the maintenance and continued success of the program. In addition, ESL was projected to double in enrollment over the next five to ten years. It was considered the core of instruction in developmental education (Interview with Eric, one of the consultants on the project, on November 3, 1999).

The State of Oregon had mandated an initiative for English as Second Language Programs. The initiative's focus is on accountability and funding of programs, with the funding being awarded based full time equivalency (FTE) and accountability. Accountability meant that the state would give more money if it could be demonstrated, quantitatively, that students were making gains in ESL program and in their other classes. The accountability would be determined based on standardized testing that could demonstrate measurable improvements. If students were able to show evidence of gains, more money would be allocated to the college.

The Total Outcome Performance System, a testing system built around tracking the ESL student and demonstrating performance gains, was being used in many community colleges at the time of this study. The state ESL director believed this was one way of being accountable and showing progress in the program. Since the ESL programs generate up to thirty percent of the NWCC FTE, the testing was a positive aspect for the program. The negative aspects of the testing were that it was time-consuming for teachers, it was considered to be a record-keeping nightmare, it required

many computer systems, and it required additional training for teachers. Teachers did not like this approach because they believed they could better assess students than could the more formal testing procedures.

The instruments used to test ESL students in California, called California Assessment Systems and Standards (CASAS), and were developed in that state. A large database of these test results had been developed and was considered strongly reliable and valid. California had been working with Oregon to help design a CASAS testing system. Unfortunately, the CASAS test did not test to the highest levels of ESL programs. Therefore, ESL programs had to use another test to measure performance at the top two levels.

Northwest Community College wanted to create a more authentic assessment system, as a part of the ESL curriculum redesign project. There was hope that it would provide alternatives to the standardized systems being promoted in the state of Oregon.

The Consultants

The first consultant, who will be referred to as Joan throughout this study, began her working relationship with NWCC in the fall of 1995. She was working with a NWCC staff member who had been hired by the college to manage a grant for educational reform purposes. Together, they developed a needs assessment process to use with faculty members from the four campuses. They began with a forum of 120 faculty members, along with representatives from public schools. Facilitated by Joan, they inquired about the group's understanding of educational reform and outcome-based

education, and discovered that many educators were confused about the intent of education reform and its impact on community colleges.

Joan then interviewed faculty members on the campus to find out how they defined outcome-based learning. She interviewed 25 faculty members who had been identified by the Dean as "the best instructors." The result of the interviews was the same as the forum, with people unsure and confused about educational reform and its intended impact on teaching and learning in the community college.

Shortly after that session, Joan had an epiphany as she drove to one of the community college campuses. She observed the framing of a small house that was being built by the Construction Technology Programs. She was drawn to the importance of the "framework." This concept of beginning with the "framework" of outcome-based education reform meant beginning with basic beliefs about teaching and learning that rely on decisions about constructing curriculum and creating effective learning experiences. To reduce confusion it was important to create staff development activities that focused on beliefs and assumptions held by the faculty.

Over the course of the next year, Joan conducted three-hour sessions (20 people at a time) to help NWCC faculty investigate their beliefs as they related to this new framework of outcome-based education. In all, she conducted over 30 sessions with faculty from all disciplines of the college.

In 1997, Joan was asked to meet with the faculty advisory group for a two-year program in Telecommunications Management. She was also invited to the Dean's Retreat held in the summer of that year, where one of the issues that came to the forefront was their up-coming accreditation review. The Executive Dean acknowledged that the

accreditation review board was communicating the same message the consultant had been discussing with the faculty members in her sessions. In the future, NWCC programs would need to identify and assess student-learning outcomes to meet accreditation standards.

As a result of this breakthrough, money was invested from the president's office to move toward developing and assessing student-learning outcomes. The consultant was charged with developing an internal faculty capacity to undertake curriculum planning across all four campuses. The initial step was to prepare twenty faculty members as internal curriculum development facilitators (referred to as Learning Outcome Team (LOT) 1) in ten, three-hour staff development capacity building sessions. All LOT members were paid for their time spent in the work sessions. During the next two years, the consultant continued the same process with forty more faculty members. The intent was to have sufficient numbers of internal facilitators to work with the curriculum-planning groups across all four campuses.

Several departments began to immediately redesign their program based on what they learned in work sessions with Joan. Rather than use an internal facilitator, the ESL team requested that Joan be their facilitator because of the unusual complexity of the program, and because of their desire to build a model program. This study follows the ESL curriculum team through their curriculum development efforts.

Through Joan's guidance, NWCC adopted a new template for its curriculum design, known as the Course Outcome Guide (COG). This was the first time the college had a mapping process in place and a standard template for learning outcomes (Interview

with Joan, April 6, 1999). The internal facilitators endorsed the planning template and used it as a way of building institutional consistency for all curriculum planning.

The second consultant, referred to as Eric throughout the study, had extensive expertise in post-secondary instruction, particularly with students who had a limited ability in English as a Second Language (ESL). For over twenty years, Eric had been an Instructional Systems Design consultant, as well as a publisher of adult education and community college textbooks. His expertise also included instructional strategies for teaching adults with limited skills in reading, math, and writing (Adult Basic Education) and in high school equivalency and general educational development preparation for students who have left high school early. His client base included a range of highly skilled adult learners and graduate students from the university level, to those with more challenging issues, such as learning disabilities, head-injury, injured, and displaced workers. The consultants had worked together on curriculum projects for several years.

At the time of this study, the curriculum change process was well under way across the entire college. More than 350 NWCC faculty members had engaged in at least one staff development session with Joan, while hundreds of other NWCC faculty had attended work sessions with the Area Curriculum Committee (ACC) facilitators prepared by Joan.

The executive team of the college fully supported the conversion process both financially and structurally, as part of their continuous process improvement philosophy. The Dean of Academic Affairs believed that this was the approach the college should be embracing for students to stay competitive in the educational marketplace.

Study Participants: The ESL Curriculum Team

Table 3.1 presents the ESL faculty member demographic information. The study group consisted of twenty-three community college instructors specializing in ESL. The instructors all volunteered to help the department redesign their ESL program based on learning outcomes and assessment. All but four of the participants were part-time instructors for the college. Some instructors worked at more than one campus. The study group was chosen based on their commitment, the depth and breadth of their program, as well as the fact that the acquired consultant would be personally facilitating the work. The study participants were minimally compensated for their time spent on the projects. Several of the participants chose to receive college credit for the work. Others were given a small stipend from the college.

3.1 Faculty Member Demographics

Number of participants	23
Number of part-time instructors	19
Number of full-time instructors	4
Average number of years teaching ESL	12
Average number of years of overall teaching	18
Average number of years with the NWCC	9
All persons held a bachelor's degree.	
Several persons held a master's degree.	
One individual held a doctorate.	
Numerous individuals held certificates in their area of specialty.	

In addition to the study group that was observed, other key individuals were selected for interviews. The interviewees included college administrators, the consultants on the project, and individuals who were the original pioneers of curriculum reconstruction at NWCC. The interview questions constantly evolved and emerged with each interview (see Appendix G). The framework for the data collection included note taking in the field and transcription from the interviews.

Framework for Data Collection

The framework for the data collection included note taking during the observation sessions. Field notes were generated during 120 hours of observation over the course of

one year. The researcher also developed a survey that was administered to the research participants after the first term and a program evaluation for the conclusion of the final session (see Appendix F). In addition, the researcher met with several individuals to interview them based on their experience with the college and the particular program under study.

The interview guide consisted of several questions (see Appendix G). In some instances, questions that were not on the interview guide emerged later. The data received from the emerging questions proved to be valuable and important to the study. The researcher audiotaped each interview for later transcription.

Once the data were collected and organized, it was entered into the QSR – Nud*ist software program for analysis. The software program did not determine themes and concepts. Rather, the researcher developed a coding system that was used in the software to generate reports. From the reports, the researcher was able to analyze the data in order to identify patterns and key concepts for the study. Once the data were analyzed, hypotheses were generated.

Data Analysis and Hypotheses Generation

The approach to analyzing the data by the researcher was through interpretational analysis. Interpretational analysis is the process of finding constructs, themes, and patterns in order to describe the phenomenon being studied (Gall, Borg, & Gall, 1996). The data was analyzed by critically looking at the field notes for trends and patterns. The researcher reviewed the reflection journal, class notes, and interviews line-by-line to look for patterns and trends in the information. Based on the analytical induction, patterns that

emerged were identified and meaningful segments were created and related information was placed into categories.

Once the categories were identified, the process of constant comparison began. Basic hypotheses were then created that supported the data collected. The researcher also employed the method of reflective analysis within the process. Reflective analysis allowed the researcher to critically reflect through the process of introspection, the phenomenon that occurred, and possible reasons for its happenings. The purpose of reflective analysis was to allow the researcher to personally discover the various constructs and themes throughout the process. The hypotheses were then presented to the principal investigator for her input.

QSR – Nud*ist qualitative research software, was used to organize the data and search for themes. The following steps were used in the analysis process and were based on the output of the software:

Step 1: Field notes from observations, journal entries, and transcribed interview notes were all organized and formatted for the QSR – Nud*ist software program. The coding system for the software was developed, and the text was then coded appropriately. Searches were made within the text to identify key phrases and concepts that were repeated within the data.

Step 2: Reports were generated from the software. The reports were analyzed for themes, concepts, and repeated patterns.

Validation of the Transcripts

The validation process involved having the interviewees review their transcripts prior to them being entered into the QSR – Nud*ist software. Each interviewee was given the opportunity to read transcripts from his or her interview. The interviewees were given the opportunity to provide their comments and any additional thoughts. Once the interviewees concluded with their review, an approval was obtained and the transcripts became a part of the qualitative software review process. The transcripts from the interviews were coded and used to analyze and generate hypotheses, themes, and conclusions.

Summary

Over the course of one year, the research participants were observed in order to identify emerging patterns and themes. The observations provided the researcher with specific information concerning the process of outcome-based curriculum reform and redesign in the community college. The interview process helped to build a contextual background for the story that emerged. The interviews were a key part of the process since the interviewees were from various disciplines and held different roles within the study.

CHAPTER 4

PRESENTATION AND ANALYSIS OF THE DATA

Introduction

The purpose of this study was to document a community college faculty development process as they learned to redesign a curriculum around significant learning outcomes and authentic assessment strategies. ESL faculty members were observed to understand the issues, complexities, challenges, and obstacles that occurred as part of the process when restructuring college curriculum. The findings from the study led to conclusions and recommendations that are important for higher education. These conclusions and recommendations should provide other college faculty members with insight and information on how to facilitate and develop an effective curriculum change process.

The research questions provided in Chapter One helped guide the observation process of curriculum redesign with one community college program. The inquiry focused on 1) the institutional environment and support systems in place and 2) the actual faculty learning process.

Organizational Support Systems

Within the community college, there were support systems to assist the ESL faculty members in their process of program-level curriculum redesign. The two primary

support systems that emerged included support in the form of institutional leadership and support in the form of internal communications.

Leadership support

At NWCC the Dean of Academic Affairs personally championed the move to the use of outcome-based curriculum and provided the necessary resources, including funding for consultants, faculty time, use of facilities, and even for celebration incentives. He expressed openly that as a college they were "willing to support the conversion to outcome guides, to financially support program reviews, to take a look at the curriculum, to look at learning outcomes and what their students are walking away with." The Academic Dean made good on his statement by meeting with the ESL faculty at one of their work sessions to formally share his support and understanding of the project. He made ESL faculty members aware that he personally had attended curriculum redesign work sessions and understood the process and concepts they were learning. This reinforced his belief that what the ESL team was doing "was about better teaching and better learning."

One participant asked the Academic Dean whether the college would be willing to support the changes they proposed as a result of their work. He responded by asking the group to develop a workable model. He said he would then review the model with the ESL Division Dean and determine which short-term and long-term changes could be implemented. He told the group that he would be "flexible in his decision-making" because he wanted this change process to work. He indicated that he "wanted to work towards less fragmentation and more of a whole faculty." He believed that what they

were doing was helping to "de-fragment teachers, students, and the workforce." After the Academic Dean left the work session, I sensed a new feeling in the group; they were enthused because he was supporting the curriculum redesign efforts, and they believed the project they were embarking on could actually happen.

In an earlier conversation with the Academic Dean, I also felt that he was committed to doing things differently at this college because, in his opinion, this was "how business should be done in higher education." He was firm in his belief in the learner and making sure his or her education was meaningful and helpful in the real world. He was not simply being motivated to do this because of accreditation mandates. After discussing the philosophy of curriculum reform with him, I knew he was enthusiastic about the ESL redesign project. He felt, along with Spady (1992), that outcome-based education is about preparing students for life, not simply getting them ready for further education or employment.

Departmental and student communication

In this study, only a small number of the ESL faculty members were participants in the curriculum redesign process; therefore, it became evident that other ESL faculty members needed to understand what was happening. The faculty team decided to do several things to ensure all ESL faculty members were receiving information about the process and providing input.

First, the participating ESL faculty coordinated a two-day retreat focused on instructional systems design, systems thinking, and curriculum reform. The Dean of Academic Affairs financially compensated ESL faculty members who helped prepare and

present at the retreat. At the retreat, outcome-based concepts were presented to all ESL faculty members so they would understand how to apply curriculum reform changes in their classrooms.

There was a second ongoing communication strategy within the ESL department. The Area Curriculum Committee (ACC) from the ESL department, which was also involved in the work sessions, published a newsletter. The Spring, 1999 issue of the newsletter focused on the instructional systems design concepts the ESL faculty team had been developing with the consultants. The newsletter highlighted the Living Systems Thinking vs. Mechanical Systems Thinking model (see Appendix B) presented in one faculty work session. The newsletter outlined several learning strategies and activities the faculty members participated in as they worked through their curriculum redesign process. The ESL newsletter continued to communicate the ongoing status of the curriculum redesign project during the study and areas where it had shown success.

Thirdly, the faculty team implemented an ESL student Needs and Satisfaction Survey to gather information before making changes to the ESL classes. One full-time faculty member stated the reason for the survey was because "teachers wanted to get the students' ideas about how to make the ESL program better." The survey incorporated the core roles the ESL team had created for their Program Outcome Guide (POG, see Appendix A). Approximately 833 students responded to the survey. The results indicated that the ESL students wanted to interact with their community, learn more problem solving skills to help them with their work, and they wanted more technology in their classrooms.

Finally, the Dean of Academic Affairs intentionally kept dialogue going about curriculum reconstruction both electronically, and in meetings throughout the college. As the Dean communicated with other departments in the college, his primary message was:

We have got to realize that this is just good practice and it is about continuous improvement. The only way you can have continuous improvement is to identify outcomes and how to achieve them. The outcomes need to be related to your mission, which for us is student learning. Do good assessment in the end and have that assessment determine the method of delivery that you are doing in terms of instruction. What we are selling people on is that is what this process is about; it is about continuous improvement at every level of the college; administration, support service, and instruction.

Organizational Obstacles

There were several organizational obstacles that affected the final outcome of the ESL curriculum reform project. Those obstacles included the lack of mid-level management involvement, inconsistencies in curriculum redesign implementation within the college, and insufficient allocation of staff development time.

Lack of mid-level management involvement

One of the organizational obstacles that made the curriculum process change difficult for the ESL faculty was the disengagement of mid-level management. Although top leadership was supportive of the process from the beginning, mid-level management was not intensely involved or deeply aware of the curriculum changes the faculty team was creating. Apparently, mid-level management was not included in the decisions and planning development phases of the curriculum redesign process. It was not until the final ESL curriculum work session that I overheard the faculty team mention their mid-

level manager, who was the ESL Division Dean. The mid-level manager did not participate in the work sessions or provide any direct feedback to the group. In the final session, the mid-level manager did approve "celebration money" for the faculty team so they could order food for the ESL participants. Eric, one of the consultants, also questioned the involvement of the ESL Division Dean. "I was so surprised that he would not have sat in any of the sessions. He would always say he was going to show up and then did not. It was almost like his boss, the Dean of Academic Affairs, knew more about what was going on in the ESL department than he knew. I was concerned that he had not been down our throats saying, where is it going?" The process was missing a mid-level manager, or a third party person, who was involved and actively supporting the ESL faculty team as they were engaged in the redesign process.

One of the primary concerns expressed by the Dean of Academic Affairs was "organizationally, what we are missing is a third party that people can confer with about their redesign project. In the chain of command that a faculty member has, whether it is a department head, division head, or dean of instruction, there are none of those people who have gone through the work sessions and really understand what a COG is about." Four full-time faculty members were active participants in the curriculum redesign work sessions. One of the full-time faculty members was the chairperson for the ESL department and participated in the college-wide facilitator development sessions. For the ESL team participating in the work sessions, this was their "third party person." While she had more preparation in outcome-based learning than the other participants, her knowledge tended to frustrate the faculty members.

It was evident throughout the process that the chairperson had her own agenda. The ESL faculty members showed visible signs of frustration and anger, perceiving that she was forcing her way of thinking on them. At one point, the chairperson was engaged in a debate with one of the consultants. Eric, the consultant, felt that the chairperson was forcing her ideas for the final outcomes of the project, rather than allowing a collaborative process to occur. Eric indicated:

Everything looked smooth up until the last sessions. The last sessions had the greatest revelations to me. It had everything to do with the chairperson and the role that she had. What we began to see is how much control and ownership she wanted to have in the process. In her mind she had what she wanted to present to the administration but with no real strong regard for being a representative of the whole team.

The frustrations continued to mount in the last few sessions, which contained team debates concerning the implementation plan. The chairperson, and other full-time faculty members, told the entire group that they would be meeting with the ESL Division Dean to discuss the implementation plan and what should happen next. However, it was not clear when that meeting would take place and when the implementation process would begin. The frustration of not knowing what was going to happen seemed to dampen enthusiasm of the faculty. I overheard a few faculty members state that "this will never happen" and it is "going to drag out forever."

College-wide inconsistencies

Another organizational obstacle was the lack of consistency in the implementation of the curriculum reform process throughout NWCC. Many departments had begun to redesign their programs based on the earlier work with the consultants, but they were

really doing it their own way. During my interview with one of the ACC facilitators, she stated "all faculty are supposed to put in the time to rewrite the curriculum every three years anyway. But this is mandated where other times it is expected to happen, sometimes it does and sometimes it does not." This also means that the implementation process for all departments is happening at different levels and at different times throughout the college.

There are three Instructional Deans who oversee the instruction for each of the main campuses, respectively. According to one Dean of Instruction,

There was a decision made at the very beginning of this process and not everyone agreed with it. The decision was to hold off on doing the core outcomes (college level) until we have done the discipline-based outcomes. The reason for that was that we wanted to make sure people were well-versed in how to do an outcome, know what they were about, and have them institutionalized before we went to the core outcomes. The core outcomes were going to go across all of the disciplines and we wanted to make sure we were not starting cold.

She believed the discipline-based implementation,

Was uneven in terms of what the different disciplines were doing and what their motivations were. Some were saying we had to do this and there was no thought behind what they were doing. It varies from 'let's do it because we have to,' to those who are motivated. Some have used the adage 'been there done that' or said 'don't bother me with it; I will just change my word from competency to outcome.'

The Dean of Academic Affairs looked at the ESL curriculum redesign project as a possible model for other programs noting that, "The ESL project focuses on a start for us to approach whole departments in ways we have never done before. It is wonderful to see what ESL has done in terms of looking at their whole curriculum and rethinking what they do and why they do it. I think we will probably use ESL as one of the examples of

how a conversion has been totally made.” Perhaps it was important for NWCC to have some models in place to generate consistency. At the time of this study, the whole college was still in an exploratory phase of outcome-based learning and assessment.

Faculty and time reimbursement

Another factor that affected the ESL curriculum redesign project was the amount of time allocated for faculty members to participate in the project. According to Murphy (1997) “faculty members are rarely given the time to actively pursue strategies of collaborative learning. Time that is allotted for faculty members to work on curriculum redesign must be spent in serious and purposeful work to increase faculty member’s knowledge and skills.” In this study, participating faculty members in the ESL department were given time to purposefully work on the project. However, because of the complexity of the outcomes, most of the work was necessarily completed outside of the work sessions and on their own time. Although the faculty did much of the work on their own time, they were frustrated that they were not able to devote as much collaborative time to this project as they felt it needed.

The time allocation issue was one reason several of the faculty members wanted to rush the process. They realized that this was their only opportunity to make changes in their program so they wanted to use their time efficiently. When the faculty team neared the end of the funded portion of the project, there was still much work to be completed, which contributed to the frustration in the last few work sessions. The faculty members wanted to know how and when curriculum changes would begin and what their role

would be in the implementation process. Some of these questions, I believe, were left unanswered.

By the end of the yearlong effort, the number of faculty participating in the curriculum redesign work sessions decreased from twenty-three to thirteen. Several of the ESL part-time faculty members chose to take the work sessions for college credit and received a stipend of 455 dollars. The remaining ESL part-time faculty, who chose to register for the work sessions as non-credit, were paid a stipend of 150 dollars. The faculty members that remained in the curriculum redesign process were those who were receiving college credit or who were full-time faculty.

Essential Design Skills

Designing a learner-centered, outcome-based curriculum was not an easy process for the ESL faculty team. Table 4.1 identifies the essential design concepts and skills, along with the primary learning strategy they confronted.

4.1 Essential Design Concepts and Skills for Outcome-Based Curriculum Reconstruction

Design Concept and Skills	Primary Learning Strategy
Learning collaboratively	Dialogue
Systemic thinking	Metaphor/story/visualization
Strategic thinking	Visualization
1. Stating intended learning outcomes	Affinity diagram
2. Writing course outcome guides	Visualization
3. Writing program outcome guides	Visualization
4. Mapping the program/courses	Visualization
5. Creating assessment tasks	Contextualization
6. Analyzing skill sets	Affinity diagram
7. Creating assessment tools	Collaboration
8. Learning collaboratively	Dialogue
9. Negotiating	Dialogue

Collaborative learning

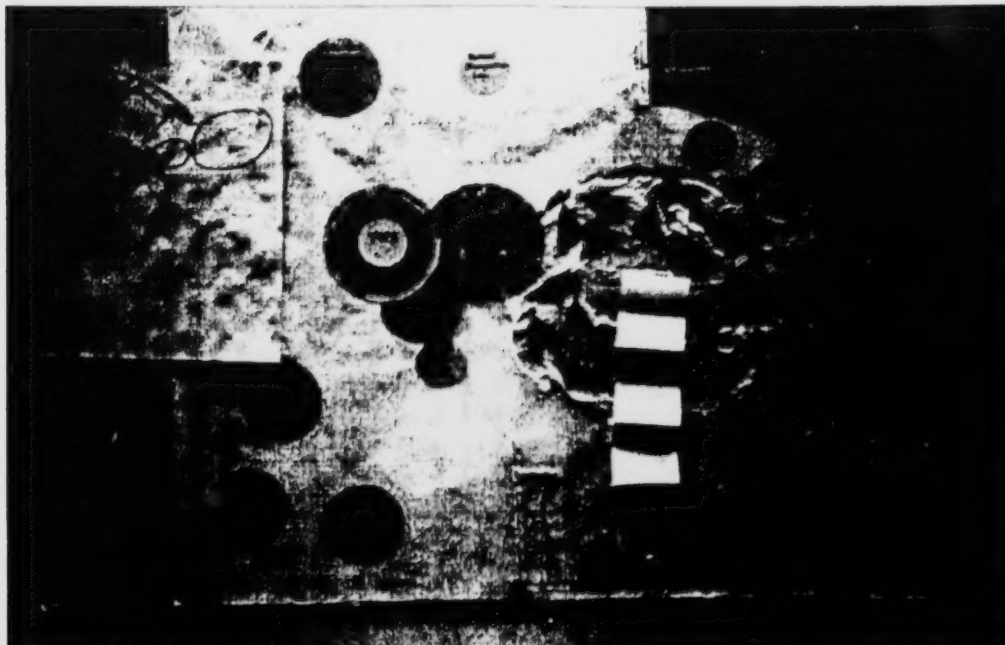
In addition to developing the necessary skills to design a new program such as stating intended learning outcomes, mapping the program, and creating assessment tasks, the ESL faculty team had to apply the concept of collaborative learning to their own

work efforts. In the first work session, Joan told the ESL faculty members that they as a team were "forming a community." Maintaining that community, at times, was not an easy task.

Struggles in the working relationships between faculty members often delayed work progress and challenged collaborative efforts. This became evident in one work session when the ESL faculty team was in the process of developing scoring guides and creating assessment tasks. One participant verbalized her frustration and anger with one full-time faculty member. She was upset because the faculty member had attended one of her classes to evaluate her performance, resulting in an unfavorable evaluation. After her class and the ensuing discussion with the full-time faculty member, she went to the ESL Division Dean to let him know she was "not going to sign the final written evaluation." She believed the evaluation tool that the faculty person used went against what was being taught in the ESL faculty work sessions because it had been judgmental, subjective, and tried to "put her into a box, and did not allow for creativity." I paid close attention to this person in the work session as I noticed her expressing negative non-verbal behaviors towards her evaluator. She had strong opinions against scoring guides and chose to work on other personal projects throughout the work sessions.

The collaboration process was not always easy and required patience, understanding, tolerance, and sometimes negotiation among the faculty. At times, the tension in the process was strong. Tension arose due to conflicting viewpoints, or the result of "turf" issues, and attempts by faculty members to look at their own work in isolation. Tension usually led to breakthroughs and shifts in the faculty members' thinking because it created a forum for open dialogue. The first time I observed "turf"

issues was during the third work session. In the previous work session, the consultant had asked faculty members to bring back their version of their program map. One faculty member came back with a program map filled with incredible detail and style (see Figure 4.1). The person had created a visual map that incorporated the classes, the contextual issues of the program, and a map of the region outlining where the four campuses were located. The comments to the person were complimentary from the faculty members, but I intuitively sensed an air of frustration. The person who had created the program map was a full-time faculty member and was seen as a person with authority within the department. At the time, I wondered what other faculty members were thinking about her map. I noted that several of the faculty members were engaging in side conversations as they looked at "her" program map. I sensed that others felt she had created a new map of the program that she was intending others to follow. As other maps were shared, I noted that there was some discomfort with one another as they reviewed the different maps.



4.1 Program Map Creation

Throughout the work sessions, there was one faculty member who had particular difficulty working with others. The faculty member tended to work individually, did not seem to want to learn collaboratively, and questioned many of the ideas that were presented by the team. I also heard this person question the consultants' depth of systems thinking knowledge and understanding. In the first work session, I overheard this person say that the consultant was "simplifying the information." In one of the final work sessions, the faculty member told the group that he was frustrated because he did not feel his "input had been heard." Eric accepted his concern and tried to make sure he was actively heard in decision-making conversations. One other instance that illustrated the "turf" issue was when the faculty team was trying to align the Course Outcome Guides (COGs). Small faculty teams had been created to develop the COGs (see Appendix A)

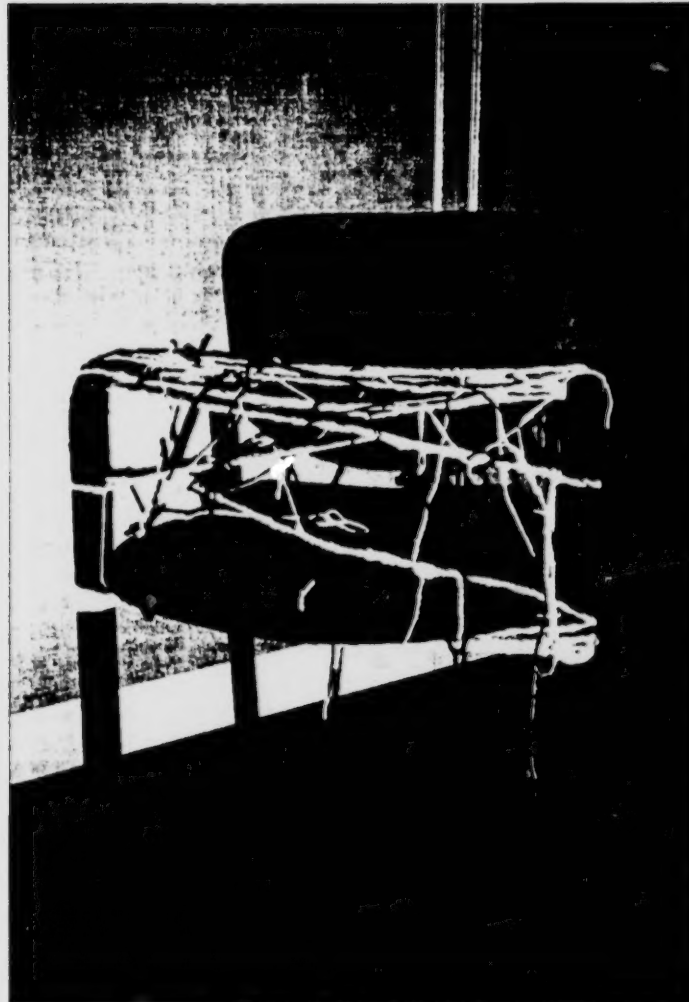
for the various Student Performance Levels (SPL). The faculty teams needed to spend time reviewing each SPL level to insure that there was not a duplication of activities within the different levels. One group decided they did not want to align with other levels and continued to focus only on their own COG. They were convinced that they had selected the appropriate tasks and intended outcomes for their level and did not want to make any further changes.

In many work sessions, it seemed to me as if the faculty team were collaborating well and making progress. At other times, it seemed as if the team was beginning to fall apart. But, the participants did not always share my perceptions. In one session, I made a comment about the "jugular nature" of the session to one faculty member. She seemed to think that it was a good session and was not difficult for the team. She was surprised when I told her that I observed side conversations, facial expressions, and body language that held negative connotations. She asked other faculty members about their perceptions of the session, and they concurred with my observations.

In the next work session, one faculty member asked the consultant if the group could work in small teams instead of a large group because of the frustration level the group experienced the previous day. The faculty member wanted the group to "walk away happy that day without stress and frustration." This comment underscores the complexity and frustration a faculty team can experience in curriculum development. Eric, the consultant, felt that "there were some glitches around them not being patient, not giving time to process, and I also believe that internally what I realized at the end was that there were more personality issues going on than we thought." This, plus the complexity of the project, made it challenging to facilitate the group to consensus.

Approximately one-third of the way through the curriculum design project the consultants asked faculty members what they felt was the most significant thing they learned from participating in this learning process. Several responses were directly related to the collaborative learning process. These responses included "we built connections that are lasting," "we were team building and being developed as a staff," "there was a whole group of people working together," "I liked working with my colleagues," and "we worked well together." These responses help to confirm that collaboration and open dialogue are essential to the program-level curriculum redesign process.

The consultants purposefully undertook to create a collaborative environment. They strategically planned activities that would help facilitate the feeling of support, connectedness, and fun. As an example of using a creative project for assessing learning, the consultants engaged the faculty members in an activity called the "yarn sculpture." The faculty members were split into small teams and asked to create a holistic and meaningful original sculpture with balls of yarn (see Figure 4.2). Their "constituents" (the consultants played the role of the constituents) assessed the group's work to determine if their sculpture were appropriately connected to stakeholders and the intended outcomes for the activity. A scoring guide was created so each team knew how they would be assessed. The yarn sculptures were connected in many ways; in fact, participants connected their sculptures with others in the rooms, showing a network concept. The activity helped the faculty members understand and think about connections, boundaries, and interdependence, which are key concepts for systems thinking.



4.2 Yarn Sculpture

The consultants were able to initiate and maintain the kind of support Schlechty (1990) proposed in his book *Schools for the 21st Century*. Schlechty believed that faculty members need positive recognition and affirmation, and a variety of learning activities that are both intellectual and professional. Having the two would ultimately help faculty

members feel that: (1) what they were doing made a difference; (2) they all had similar issues; (3) they were gaining collegial support for their program; and (4) a foundation for better group interaction was established. The consultants were able to provide an environment that included all of these factors.

In the end, the collaboration paid off by enabling the ESL faculty members to design a new program that was outcome-based and learner-centered. The curriculum reconstruction project entailed more than changing the intended learning outcomes. The collaborative learning process itself made a difference in their working relationships and connections to one another. One of the faculty members said the most effective activity was "working with my peers to develop a Program Outcome Guide (POG) and a program map (our 'bamboo') for the ESL program. It was active and engaging learning. And because we all knew the program, yet had different perspectives, it was an opportunity to really learn from each other's viewpoints and ideas." Another faculty member commented that the collaborative learning process "helped make a difference for me in my working relationships and connections to others." I felt the team took pride in their work, was passionate about how it would be implemented, and cared about their future role in the program. It was obvious from the evaluations (see Appendix F), and their personal interactions, that the team had "bonded" by the end of the work sessions.

Systemic and strategic thinking

A second skill important in designing an outcome-based curriculum was the ability of the ESL faculty to look at the entire program rather than just focusing on the courses they taught. Faculty members had a difficult time visualizing the whole ESL

program. This became evident as the faculty members developed and shared their visual organizers. The program map taxonomies showed that faculty members understood certain parts of their program and how they fit together. Only one of the program maps, however, incorporated a perspective that revealed the whole program in context.

Helping faculty members see their program from a "systemic" perspective was a challenging process that required many strategies. Faculty members became better able to understand the concepts when they discussed how systems permeate every area of their lives. After the first work session, one faculty member who traveled overseas during this project said that on her trip she began to see "everything connected as a system." One activity that initially helped faculty members understand how things are connected beyond their college was the reading of a chapter from the book *The Organic Machine*. The book details the history of the Columbia River and incorporates events and people that have changed the river and its inhabitants through the years. As faculty members discussed the reading material, they identified several key systemic thinking characteristics including networks, interdependence, change, feedback, identity, boundaries, and emergence, which they were able to relate to learning organizations and curriculum planning.

Halfway through the work sessions, one faculty member commented, "I would feel resentful if we had not gone through this process. We don't exist in a vacuum but we do exist in a system. We have to look at the larger context, the state, federal, and ESL types of programs because it all impacts what we do. We need to be wise enough to take all of this into account and consideration." This type of thinking led me to believe that the faculty members were thinking about their program in systemic ways.

The consultants suggested visualization and planning tools to help the faculty team think strategically in the ESL curriculum redesign process. The first tool was called a Program Outcome Guide (POG) and the second was called a Course Outcome Guide (COG) (see appendix A). The POG helped faculty members visualize their entire program, including the intended outcomes, capstone assessment tasks, courses, and prerequisites. The POG was the first tool that challenged them to think about their program as a whole. The affinity process, (see Appendix A for example), was a visualization and collaborative brainstorming tool the facilitators used to help faculty think "out of the box." The process began with each person silently brainstorming answers to the question: What do ESL students need to be able to do "out there" that we are responsible for in this ESL program? Once the tasks were generated, all of the participants placed their tasks on a board and clustered them into common areas. When the clustering was completed, categories were created that synthesized the essence of the tasks into holistic learning outcome statements. The consultants used the affinity process again later in the work sessions to help ESL faculty members analyze skill sets needed to achieve the intended outcomes.

When the ESL faculty team was developing their POG, I noticed they were confusing the course outcomes with the program outcomes. The consultants intervened and reminded them that the POG was a broader view of their entire program while the COGs focused on the specific courses within that program. COGs focus on the intended outcomes, assessment tasks, skills, themes, issues, and concepts for a specific course. According to Joan, the COGs "are going to have to stack and align." Both of these

visualization tools helped faculty members think systemically and strategically at the program level.

Authentic assessment is an essential element of an outcome-based curriculum, and a clear indication of both systemic and strategic. According to Joan, assessment brings closure to a design process and defines the standards for measurement. The consultants incorporated several activities that helped faculty members understand and create authentic assessment tasks and tools. One activity included the use of photography. The participants were given several large photographic prints, taken by the consultant herself, and were asked to evaluate their photographic merit based on established criteria. She wanted the group to give her a numerical value as well as specific feedback, "so I will know how to improve my skill (formative assessment)." Providing the participants with the criteria in the form of a scoring guide established qualitative standards, which everyone could use in providing formative feedback.

The consultants incorporated the use of the systemic and strategic tools throughout the curriculum redesign process. The ESL faculty members were asked, on several occasions, to compare their COGs with their scoring guides to ensure they were aligned across all of the SPL levels. The strategic process helped faculty members become more aware of interdependencies and of how the courses and assessment processes interconnected through the entire program.

The final strategic planning concept that the consultants introduced to faculty members involved the design of lesson plans that focused on intended course and program level learning outcomes. Lesson plans (see Appendix A) helped faculty members organize the activities and classroom processes so they would align student

learning with outcomes. The faculty members discussed teaching philosophies and the use of learning strategies in their classrooms. A question posed by Eric was "how important will [teaching philosophies] be to driving the delivery of the curriculum that we have just designed?" The faculty members brainstormed to determine which criteria were critical components in the delivery of curriculum. Some of those criteria included: (1) providing and incorporating of a safe and non-threatening environment; (2) learner-centered activities; (3) clear directions and modeling; (4) real-life needs and applications; (5) student input and choice; and (6) insuring that learners could perform the required tasks. The ESL faculty team created sample units, also known as lesson plans, for the specific COGs so other instructors would have good examples to follow. Some team members were concerned that the creation of lesson plans for each course would infringe on a teacher's academic freedom and creativity. A sample unit seemed to be acceptable (see Appendix A) for other faculty to use as a resource.

The sense of connectedness and working together has been the premise of Peter Senge's (1997) work on system thinking. Senge stated, "We have to develop a sense of connectedness, a sense of working together as part of a system, where each part of the system is affected and being affected by the others, and where the whole is greater than the sum of its parts" (p. 128). For the ESL program, it was important to understand the boundaries that spanned across the department and across the college system. Joan told the group that the future of education would be characterized by greater "interdisciplinary work more interrelated courses, and more cross-over between faculty." Throughout the curriculum redesign process, the faculty members asked themselves how each of their program parts connected to the whole. Each time they learned a new concept, they

seemed to have more energy for the work. At one point, one of the faculty members created a song to help her synthesize her own learning about COGs and POGs (see Appendix E). The song was sung by everyone and helped clarify the tools used in the design-down process and also provided a dose of laughter. The faculty members were continually trying to learn from each experience so they could better understand the entire curriculum redesign process.

Throughout the curriculum redesign project, it was easy for me to identify when the group was confused. The confusion typically occurred when faculty members were focusing on details and not on the larger parameters of their program. I could determine this by listening to the words they used, their tone of voice, and observing their non-verbal behaviors. These behaviors affected the faculty members' disposition and their ability to see the larger picture.

Difficulties of Curriculum Redesign

Throughout the curriculum reconstruction process, the ESL faculty members faced many challenges. These challenges included 1) difficulties in comparing the current program to the newly designed program, 2) a lack of faculty consensus, 3) the slow pace of the program reconstruction, and 4) the ability to stay focused and motivated.

Difficulties in comparing the current to the new program

On many occasions, I noted that the ESL faculty members were having difficulty comparing their current program to the newly designed program. This was particularly true early in the process. The struggle began in the first work session. The consultant

asked faculty members to break into small groups for an activity, creating a challenging learning situation by stating, "the goddess has spoken and there is no ESL program." Faculty members were directed to envision a new ESL program. After thirty minutes, they were asked to report two things to the consultant: 1) what process they went through as a team to design their new program; and 2) what they were going to specifically change about their current program. This activity was challenging for the faculty as they struggled to think of a new way. I participated in one of the groups and could see and feel the faculty members anguish as they barely managed to change anything in the existing program. The group sat at the table, unable to draw a program different from the one they already knew. The activity served the purpose of making them aware of "the box we all work in."

Joan used another strategy to make the same point. She asked participants to tell her how many years they had spent in the classroom as a student, teacher, advisor, or trainer. She placed the numbers on the board. Together they acknowledged how their vast experience in classroom learning had biased their perspective making it difficult for them to break away from their beliefs about teaching and learning. She stated that the "experience they have had has led them to create certain assumptions (about teaching and learning). There is a classroom culture where many educators have spent years as a student or instructor. To move toward outcome-based learning, many of these experiences and related assumptions have to be surfaced and brought into question."

Lack of faculty consensus

The lack of faculty consensus, at several key junctures, tended to slow the group down and create frustration. During the summer session, I sensed that a few of the faculty members wanted to "get moving" in the process. Their non-verbal communications spoke loud and clear. I was sitting next to one of these individuals and her body became tense, her face got red, and her entire disposition showed she was distressed. In a later work session, there was a heated discussion about the use of lesson plans. One faculty member commented "if we create lesson plans for every course, we are taking the academic freedom away from our teachers." In the end, the group decided to call them sample units so everyone would agree on material for the work packet, which other instructors could learn from.

Faculty members tested one another's patience in many of the work sessions. As the group tried to gain consensus in one session, the discussion became heated. Finally, one faculty member confronted the group with "this is a discussion, not an argument." Those words seemed to miraculously change the tone of the discussion and the participants began to listen to one another, and come to agreement on the issue.

Pace of the process

The pace of the curriculum redesign process was an issue for some faculty members. Several faculty members, as reported in the final evaluation, felt the process in the work sessions was slow (see Appendix F). These faculty members felt as if some of the discussions were of "minutia and did not need to be dragged out for so long." The time spent in some of the discussions was perceived as a waste of time that should have

been better facilitated. At times, the consultants allowed the conversations to linger as part of the dialogue process. The tendency to stop discussions too soon could have stifled creativity and inhibited ideas that would have emerged otherwise. However, I noticed several instances when the consultants could have facilitated the group more readily. In those instances, the group dynamics were becoming negative and the faculty members were showing disrespect of one another by having side conversations, rolling their eyes, and working on other things. I purposely sat in the back of the room in most of the work sessions and observed dysfunctional team dynamics. I noticed patterns of behavior that were not managed as often as they should have been. One person was continually having side conversations with others. In several instances, she tried to engage me in those conversations. The group dynamic issues tended to delay work efforts. However, the ensuing conversations typically strengthened the team and produced new ideas for the project.

Following one work session, a participant shared with the consultants what she had learned in the sessions up to that point. She related it to the gestational process. I found her comments to be rather metaphorical. She stated:

That understanding and working with this process takes time. It is not something that is birthed right away. It needs to be introduced slowly and begin to take shape and form over time. By the end of the gestation period, a beautiful product is developed – one that will continue to grow and change, but which has been molded and created with love from all parties. The product the faculty team was creating was really in its first trimester of development. The project still needs to become integrated into the system and begin to show a life of its own. The integration had just begun for this project and will take time to fully implement.

She seemed to understand the pacing of the program and its strategic intentions.

Staying focused and motivated

Several faculty members found it difficult to stay focused and motivated. A few faculty members commented, in a final survey, that work sessions did not allow for enough reflection time. Several faculty members indicated that they would often "shut down" when they did not have time to process everything that was happening in the room. One member stated that "things were often chaotic, and I just did not have time to understand what was going on around me."

There were times when the group got bogged down in the selection of words. The consultants let faculty members know that they could do the word-smithing later and asked the group to form a small team to do that. On another occasion, I noticed that the team had nearly completed part of a process and was just looking at the fine print. Each person wanted the material to look perfect, which tended to take the team off-track and take up much needed work time.

The ESL faculty were often confused about some of the concepts, and terminology used in the outcome-based framework. After one session, one faculty member sent an email to the participating ESL team expressing confusion about scoring guides and assessments, commenting that, "Holistic scoring is a summative assessment which would be a subjective assessment on the part of the teacher, which is fine. However, aren't we trying to create more uniformity and consistency throughout the program? I recall Joan mentioning the beauty of a program is one that offers consistency across the levels, which then gives it the credibility we need in order to prove that the instruction we deliver is worth it." The email ultimately became a discussion platform. In the next work session, the consultants took time to review the purpose and use of a

scoring guide. Joan told the group that we want to "teach with flexibility within a structure." Academic freedom and consistency are both important parts in the process and need to compliment one another.

When the consultants noticed confusion in the group, they stopped to review the essential terms and concepts, using examples and activities to help faculty members understand what was happening. The consultants were excellent at continually helping the group see where they were in the process, where they were going, and how they were going to get there. The consultants continued to encourage ESL faculty members by reminding them of the outcomes of the reconstruction process. In an email, Eric said to the team, "curriculum redesign is simply hard work. But, you are setting a model for all to emulate. I truly believe this and the road will not always be smooth when we challenge ourselves with new models."

Key Learning Activities

The consultants were skilled at using many different learning strategies and activities to enhance faculty learning. They were able to foster development of thinking skills, provide opportunities for faculty members to actively construct knowledge for themselves, create a learning environment that developed cooperative problem solving, provide a context for real problems, and use a learner-centered, teacher-directed management approach. Costa and Liebmann (1977) noted that all of these strategies are critical for higher education curriculum change.

Of the many learning activities used by the consultants, the faculty members considered two to be the most effective. The first learning strategy used visual tools,

metaphors, stories, and reflection to help faculty members think systematically, and the second involved the facilitation of collaboration through on-going group dialogue. Each of these activities emphasized the central theme of “connectedness” and “interdependence,” two concepts essential to systems thinking and its relationship to curriculum reform.

The specific activities that promoted systemic thinking included everything from building networks with balls of yarn to simulating the lens of a camera for “zooming” in and out on the college curriculum where course, program, institutional outcomes, and assessment are interconnected and layered (see Appendix D). In another activity, they used illustrations from the book *Zoom* to illustrate embeddedness. Figure 4.3 represents two pictures from the *Zoom* book. The first picture is of a girl playing with some houses. The second picture is of a boy holding a magazine and the cover page is the girl from the first picture. The two pictures represent the zooming process and how things are not as they initially seem.



Zoom One Picture



Zoom Two Picture

4.3 Zoom*

In subsequent work sessions, the participants themselves often referred back to the “zooming” concept to illustrate embeddedness. This visual tool reinforced both systemic and strategic thinking.

Use of Stories

A story is defined by Webster’s dictionary as a “narration of an event or series of events either true or fictitious.” The consultants’ narration of events incorporated a

*Zoom pictures from “Zoom” by I. Banyai, 1995. Copyright 1995. Reprinted with permission of the author.

"systems perspective," by integrating contextual aspects of the environment with the curriculum under study. The stories told were rich in context and incorporated metaphors that illustrated connections and relationships.

Joan used a family story to illustrate the concept of "unpredicted happenings" in major projects. The story was about her brother, a construction engineer on a multi-million dollar apartment complex project. On such a large-scale project, the best project plans focus on every detail. One morning when the project was nearly completed, he got a call from the owner telling him the entire complex had burned down overnight. The story was told at a point when ESL faculty members were beginning to feel some of the frustrations of unpredicted happenings in their curriculum redesign project. The story stimulated a good deal of dialogue. Some faculty members expected the curriculum planning process to be linear and systematic in nature without any issues along the way, while others felt that even the best laid-out plans never work exactly as expected. Stories such as "unpredicted happenings," seemed to help faculty members better understand the characteristics of dynamic systems, which are subject to environmental events.

A story that helped to illustrate the concept of holistic and reductionistic thinking was the story of Susie. Susie was a kindergarten student who was having a difficult time understanding the concept of fractions. Her mother was baking a pie in the kitchen when Susie told her she just did not understand fractions. Her mother decided to use the pie as an example. Her mother cut the pie in half, placed the half on a plate and asked her how much was left in the pan. Susie responded that half of it was left. Her mother cut the half into quarters, put one-quarter piece on the plate and asked her again how much was left. Susie said a quarter of the pie is still in the pan. The mother finished the lesson by

putting half of a pie back in the pan and asking her how much was there. Susie gleefully replied that three-quarters of the pie was in the pan. After the lesson, Susie was elated and went outside to play. Her mother put the final slice of the pie back in the pan and realized that the pie was not a whole anymore. She knew that she had not taught her daughter the entire lesson. The idea of cutting something up and putting it back together does not give you back the whole. The pie will never be the same and the pieces just did not fit together as perfectly as they did when she sliced them. This story was about taking things apart, losing the meaning, and losing the essence of the whole.

The use of story helped to enlist faculty members in what Abrahamson (1998) calls cooperative inquiry. Once the consultants told a story, the faculty members engaged in open dialogue facilitated by the consultants. The consultants guided the group through questions that stimulated critical thinking around the story theme. There were many stories that were metaphoric in nature, which made it difficult to separate the metaphors from the stories. Some stories began as a story but a metaphor unfolded as the story unfolded.

Use of Metaphors

In addition to storytelling, the consultants incorporated metaphors as mental models. Joan used a flower bulb to suggest how living systems "emerge over time." She used this concept of emergence to illustrate the professional growth that would take place in the work sessions. The work sessions were intended to provide a safe and nourishing environment to experiment with new ideas. I often heard faculty refer to these metaphors as they experienced their own growth. At one of the last work sessions, one faculty

member brought in a vase with several flowers, reinforcing the concept of emergence and growth discussed at the first work session.

Another metaphor that seemed to have a long life was the idea of a building framework. After building a house, it is difficult to change the framework. The furniture can be easily re-arranged, but modifying the framework is a major undertaking. Applied to teaching and learning, it meant that moving toward outcome-based learning is a change in the framework – and for many instructors a change in beliefs about teaching and learning.

The metaphors helped faculty members grasp the meaning of concepts and new terminology associated with outcome-based learning. Metaphors were strategically used by the consultants to reinforce the concepts of: living systems, emergence, structure, framework, wholeness, interdependence, context, open-closed systems, environment, and change.

Hearing the consultants use metaphors, I sensed, was a catalyst for the faculty team members to create their own metaphor. They spoke of their program as a tree with the branches and layers representing the specific program levels. The metaphor evolved into a bamboo tree as a graphic organizer with the layers representing student performance levels (SPL), assessments, electives, and other important program details (see Appendix C). The bamboo was a graphical taxonomy, which represented the idea of layered embeddedness, depicting the idea of different strands within each standard level, and each layer having a different thickness and hierarchy. Within each standard, there were different roles and responsibilities. At the top of the bamboo, was the capstone. The capstone project was complex in nature and was the final project that students would

experience; it synthesized everything they had learned up to that point (see Appendix A). The capstone was the last level to be completed and the students were to be told, "This is what you are going to have to do to exit." Joan, who kept a keen eye on alignment, asked faculty members to make sure there was "consistency between the bamboo picture and the POG."

At the end of the work sessions, ESL faculty members questioned and challenged their bamboo metaphor. In an email communication, one faculty member stated, "I hope that the Bamboo map is a step toward something more outrageous! It is difficult to go from one model to something entirely different. I often remind my students that babies crawl before they walk. I think of the Bamboo map as our first crawl toward the ultimate goal." The faculty members discussed their Bamboo model and decided that it should always allow for review and change as needed.

Use of Visual Tools

The consultants used many activities that incorporated visual imagery. Sanders (1998) maintains that strategic thinkers need maps, models, and visual images to make it easier to see connections, relationships, and patterns of interactions. Sanders believes the challenge for strategic thinkers is to "find new ways to engage our visual processing abilities to see and understand the multiple complexities, the unseen relationships, connections, and patterns of interactions" (p. 98). The consultants on this project relied heavily on visual tools to help faculty members understand the complexities of outcome-based curriculum design. During an interview with Joan, she stated, "We are in an increasing visual society. It is difficult to think of systems in text and then communicate

it in text." *The Outcomes Primer: Reconstructing the College Curriculum* (2000) includes many of the diagrams used in the work sessions.

The visual tools used by ESL faculty members in the work sessions included Program Outcome Guides (POGs), Course Outcome Guides (COGs), and the idea of program maps (see Appendix A). One faculty member commented that, "making a visual program map was an incredible activity and visual tool for me." Another faculty member felt that the "POGs and COGs were great visual tools that helped me to step back and think about the entire program and the associated courses." The program map was a way to:

Talk about the program and how all of the courses tie together. It brought the staff together more instead of being so compartmentalized. I don't think I thought this way before. I was teaching my classes and not thinking about the big picture program and connective parts that hold us together. The program map was a tool that brought faculty in our discipline together to work for that common cause with the student at the center.

During classroom activities, the consultants constantly reverted to the theme of systemic thinking. One participant felt that the most effective and meaningful activity was "reading Chapter One of *The Organic Machine* by Richard White. I keep thinking about it and how much bigger most systems are than most of us realize." Another faculty member felt that the affinity process was the most effective for her (see Appendix A). She stated, "I liked the clustering of activities. We brainstormed outcomes, put them on post-it notes and verbalized our ideas. That was a springboard for more ideas. It was fun to find order in the chaos. We had created something we could really work with. That process was very exciting. It showed me a good way to brainstorm which I can use in my life, in my planning, as well as for our POGs and COGs."

The consultants used other visual tools to illustrate the concept of systems thinking. The consultant gave the faculty members a map of the North American Continent and asked each person to draw in the Mississippi River. As anticipated, all participants drew a line – one line rather than an intricate network that connects twenty-seven states, and three provinces, on its continually changing journey to the Gulf of Mexico. The participants were challenged by questions such as: Where does the river start? Where does the river end? How large is the Mississippi River? It did not take long for the participants to realize that a river is a dynamic system and answers to those questions change continually. The consultants also used this activity to introduce the power in developing conceptual understanding as opposed to learning discrete facts.

One tool consisted of several pictures on an overhead projector. The first picture was so reductionistic that it was difficult to identify its meaning. She continued to layer more pictures (zooming out) and eventually the participants were able to identify it as a structure of a specific bridge. She also referred to pictures from a book called “Zoom” which starts out with a small picture and eventually zooms out to a picture of the world as a small dot in the universe.

Strategic Planning

Finally, the consultants demonstrated strategic thinking in the way they planned each work session. Their task was to use the best process to assist faculty members as they progressed through their curriculum redesign project. The consultants were careful to allow issues and ideas to emerge throughout the sessions, while, at the same time, moving continuously toward an intended outcome. The activity plans the consultants

developed were not always used. Sometimes it was necessary to change the activities. Creating strategic and contingency plans is an approach proposed by Mintzberg called "emergent strategy." One example of the consultants allowing flexibility into their schedule was when one faculty member believed the work in the sessions was too theoretical. The faculty member stated, "This is all an exercise, but I don't really know what it is going to be like in reality. Personally, this is still a mental exercise, and I am not getting it inside, what it is really going to be, and I am not able to see how it would apply in the classroom." She was not alone in her feeling; other faculty members expressed similar concerns. The faculty members agreed about the curriculum redesign model they created but started to question how it would really work. Eric, the consultant, stepped back, listened carefully, and modified the work session to address the feedback.

The two consultants spent time planning and discussing the work sessions as they progressed. They modeled multivariate thinking, which is the ability to balance many dynamic variables simultaneously and discern the relationships among them. Linkow (1999) believed that multivariate thinking is an essential element to becoming a strategic thinker. They were also talented at using the concept of inducting, which is the ability to form beliefs, assumptions, and generalizations quickly from concrete and often sparse observations. The work sessions often moved fast and much information was processed which tended to make things appear chaotic.

Challenges of Real Life Application

The ESL curriculum redesign project at NWCC was unlike any other implemented at the college. Other departments within NWCC had been working on the

same process of curriculum change and redesign, but this was the first staff development team that was able to focus on its program for such an extended period of time. Aside from the Telecommunications Program, no other department had brought a faculty team together in such a unified manner to completely change the face and depth of their program. Joan knew that the ESL redesign process was going to be challenging, but she also knew that "we would all come away with curriculum that matches our criteria and that serves the needs of the 21st century. We will come away with a new structure and a new process."

The approach to this project mirrored a type of learning that is called Action Reflection Learning (ARL). ARL promotes collaborative learning through the use of real-life scenarios. Marsick et al. (1992) promotes the concept of ARL in which the faculty members are "supposed to interact with small work groups for the resolution of the problem at hand, acquire skills in critical thinking and learning, develop the skills that a given project demands, and help participants fashion their own management, leadership, or employee empowerment theories" (p. 63). This "learn by doing" approach was the basis of the entire ESL curriculum redesign project.

The curriculum redesign project was unique since it focused on a "real life" situation in which the community college was involved. Using a real life situation helped ESL faculty members make better sense of and individually self-organize the materials and concepts presented in the work sessions. The faculty members were able to construct a final product that was meaningful and important for themselves and their constituents. In one of the last work sessions, one of the faculty members wondered if their project was similar to other projects the consultants had worked with in the past. It was

explained to her, "The difference in this project was that it focused on an intact work team and an entire curriculum change. Typically, consultants work with a variety of individuals from different organizations who come together to learn tools to apply in their workplace. Although these individuals were working on their own real-life scenarios they were not as expansive as the ESL team project." The response both surprised and pleased the ESL faculty member because it gave more importance to what she and her colleagues had accomplished.

One of the greatest challenges within this "real-life" project was the diversity of opinions regarding the vision and direction for the ESL program by the faculty team. The diverse opinions created tension, frustration, and debate in the faculty work sessions, but it was this same diversity of opinions, ideas, and backgrounds that contributed to the work. The opinions and history that each faculty member brought to each activity made the curriculum redesign process a more collaborative, complex, and rewarding learning process.

The Process Continues

Over the past year, many events have taken place. The following table illustrates what has been implemented and what other changes have taken place in their ESL program.

4.2 ESL Outcome-Based Curriculum Implementation

- A Program Review is in process and a three-year-goal plan will be in place by April 2001.
 - Final COGs are in the process of approval.
 - The ACC team approved four COGs for Integrated Skills classes.
 - Four reading/writing COGs are in the process of development.
 - Speaking, pronunciation, and computer ESL classes were piloted.
 - Writing prompts and scoring guides are in the process of being written for placement of students.
 - Naming schemes for the new courses are currently being processed through the college system.
 - A technology plan was created and parts of it are being implemented. Technology will be integrated into all classrooms.
 - Technology outcomes were included in the Integrated Skills COGs.
 - A standardized assessment process was mandated by federal and state rules.
 - The Workforce Investment Act allowed for fees to be charged for ESL classes beginning in 2001.
 - A partnership was formed with another college as a part of a national study that creates a Lab School for ESL students.
 - NWCC is in the process of a program discipline review by the college accreditation association.
-

Note: Updated March 2001.

The table outlines the actions that have taken place since ESL faculty members last met in a work session. At this reporting, the ESL faculty team is currently in the process of program review with the result of the review being a three-year-goal plan that will specifically outline the overall implementation strategy for program-level curriculum

changes and redesign. The three-year plan will include communication strategies, leadership involvement, and faculty training.

Findings Summary

Change, regardless of the type, is not easy for any organization, individual, or learning institution. The change process requires leadership support and constant communication. Without these two things, the change process cannot be successful. Changing college curriculum to be outcome-based and learner-centered is a complex and challenging endeavor. There are several obstacles that can make the process difficult for faculty members as they redesign their program. The obstacles include lack of mid-level management involvement, college-wide inconsistencies in the process, and lack of faculty time and reimbursement. At NWCC, ESL faculty members faced all of these obstacles during their redesign project.

Collaborative learning and the incorporation of systems and strategic thinking were important design concepts and skills. An essential part of the process was helping ESL faculty members be collaborative in the work sessions. Collaboration did not come naturally and required time to develop. The result of their collaborative efforts was a product that the entire team created, agreed upon, and fully supported.

Being able to view a program from a systems perspective was challenging for ESL faculty members. Consultants engaged ESL faculty members in activities that helped them become more systemic and strategic in their change process. The activities highlighted the concepts of connections, boundaries, and interdependencies. The

consultants presented visualization tools that helped faculty members look at their process from a systems viewpoint and learn how to map things out strategically.

Due to the complexity of redesigning an entire program, the ESL faculty members faced several challenges. They tended to lose interest and motivation to complete the project. The consultants were keen to observe those situations and took appropriate actions that redirected and refocused their energy. Another difficulty was the lack of faculty consensus, because attaining consensus was not easy and often took more time than some faculty members felt it should. The consensus process often slowed down the pace of the change efforts and affected the motivation of the group.

Throughout the curriculum reform change process, the consultants incorporated many learning activities that helped ESL faculty members think critically about their program. These included the use of stories, metaphors, and visual tools, which were essential for promoting systems and strategic thinking. The faculty members often referenced the tools in later work sessions, which indicated conceptual understanding. The consultants implemented learning activities that were easy for faculty members to transfer to their ESL program. The consultants were strategic in their facilitation process because they reviewed where they were in the curriculum redesign process and were flexible with the agenda based on the needs of the faculty members. They were careful not to direct ESL faculty members, but were strategic in the planning of the work sessions so the faculty could reach its own conclusions.

Focusing a staff development effort on improving the ESL program was an essential part of the curriculum reform change process at NWCC. The consultants did not have to create case studies or scenarios in the work sessions. The concepts and skills

learned were directly applied to the ESL program. The result was a program change that many faculty members believed in, understood, and supported.

The ESL faculty members have made many changes since they first started the curriculum redesign process. The final assessment will take time and patience because, as in any change process, it does not happen overnight. This particular ESL program, however, is well on its way.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this study was to document a community college faculty's development process as they learned to redesign a curriculum around significant learning outcomes and authentic assessment strategies.

Through the process of this qualitative observational case study, the researcher documented the story of the faculty team under study. The documentation focused on faculty learning processes, strategies that affected their learning, significant breakthroughs, and the environmental and contextual factors that affected their work.

This chapter focuses on the conclusions from the study; recommendations are identified; and recommendations for further study are presented.

Major Findings

Eight findings emerged from the investigative process documented in the proceeding chapter.

1. Active involvement of mid-level managers is essential in outcome-based curriculum reconstruction efforts in the community college.

Mid-level managers were not actively involved in the curriculum reform efforts described in this study. Their lack of involvement resulted in issues about implementation, expectations, and continued financial support. While the top-level

Academic Dean in the four-campus institution actively supported and acknowledged the work being done and met with the faculty to express his support, mid-level management support was still missing.

Leadership support at all levels is extremely important for a college attempting curriculum reform. To make program changes happen, leadership must be either involved in the process or informed of the specific changes as they occur. Those in leadership positions need to provide their time, resources, and commitment to change, and clearly communicate curriculum reform expectations to all faculty and administrative staff persons. These expectations should be integrated into individual, team, and administrator performance reviews.

2. Curriculum design teams working at the program level must intentionally communicate with both internal and external stakeholders.

In this study, the English as A Second Language (ESL) curriculum design team kept the entire ESL faculty, across four campuses, informed of work progress. On one occasion, the team communicated with the students by using a survey to identify their learning needs, which was essential to the implementation of the curriculum. However, little effort was made to communicate with external stakeholders, including community leaders, state department leaders, and administrators of related programs. The program was not created with all of the contextual information and inputs necessary to serve the college's constituents "out there."

3. Balancing consistency with flexibility in institution-wide curriculum planning is a desirable but difficult process.

In this study, carefully designed planning templates were created and adopted at the institution level. They provided a consistent format for program and course proposals, which would be outcome-based. Planning a change throughout the whole institution is complex and challenging. While some departments prefer greater structure, others prefer less structure and greater flexibility. The provision for both program consistency and instructor flexibility is characteristic of an effective outcome-based curriculum template.

4. Collaborative curriculum redesign is a time-consuming process where open dialogue has the effect of energizing the faculty.

Redesigning curriculum cannot happen without providing faculty with time to make the change. Several members of any department could attempt to redesign a program in a matter of days, but the result would be a program that does not reflect diverse perspectives and ideas. Faculty collaboratively engaging in open dialogue allows creative ideas to emerge and, over time, a well thought out program to develop.

5. Systemic thinking and strategic thinking are the two most essential skills involved in outcome-based curriculum planning.

Redesigning a program is a complex process. Employing the use of systems thinking skills to help faculty members understand connections, relationships, and interdependencies is key to an outcome-based curriculum change effort. Strategic thinking skills and tools aid curriculum developers as they focus and align intended learning outcomes at the course, program, and institutional levels.

6. Visualization and visual tools are effective means to developing systemic and strategic thinking skills.

To think systemically means to think about relationships, boundaries, embeddedness, interdependencies, exchange of energy, feedback loops, and wholeness, all of which can be visually depicted in organic and mechanical systems. To think strategically means to think about interdependencies and alignment. An outcome-based curriculum can be visualized to illustrate alignment. Incorporating the use of visualization and visual tools into the curriculum reform process helps faculty see their program in contextual ways.

7. The use of stories and metaphors actively engages faculty in open dialogue, critical thinking, and cooperative inquiry.

Stories and metaphors were powerful learning strategies in the work sessions because they helped faculty members understand the meaning of new terminology and concepts associated with outcome-based learning. As stories and metaphors were incorporated into the work sessions, faculty members actively engaged in discussions that augmented their level of thinking about the story/metaphor, and how it related to their own program and/or current challenges.

8. While diversity in style, opinions, and worldview adds to the complexity of curriculum planning, it generates rich dialogue, which has the effect of energizing faculty.

The diversity of the faculty from all four campuses was a critical contributor to the process. Their ideas, work styles, and subject matter expertise enriched the conversations and the decision-making process. The work sessions also provided a forum for relationship building and team development. The team development process

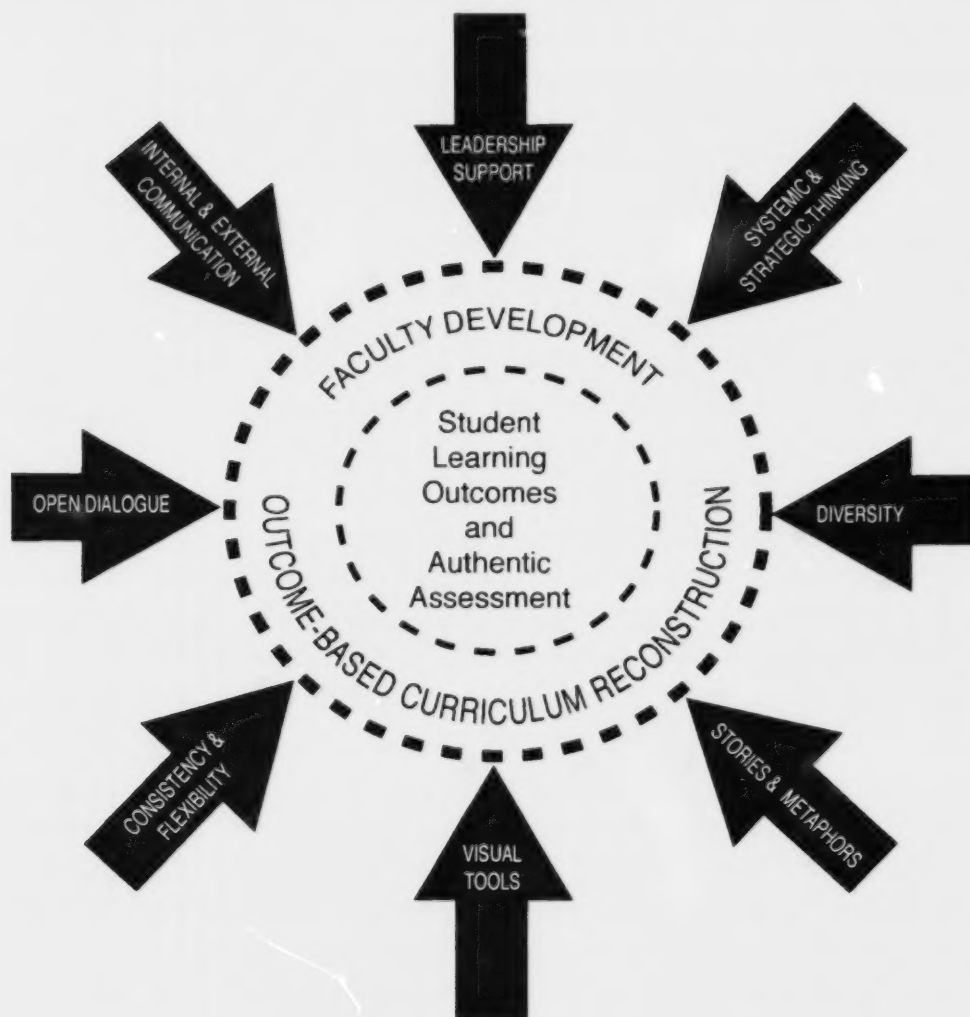
helped faculty members understand and appreciate one another's perspectives and ideas. The appreciation the faculty members developed for one another led to enhanced collaboration and energy to continue the difficult work.

Recommendations

The following recommendations are directed toward community colleges moving into outcome-based curriculum development and assessment.

1. Before beginning a major curriculum reconstruction effort, engage support from the top institutional officers and insist on the direct involvement of the mid-level manager who is responsible for the program.
2. When a group is formed for any purpose, there is a tendency to draw a boundary around the membership. In outcome-based planning it is essential to keep that boundary permeable, inviting input and maintaining communication with the stakeholders who will be involved at the implementation level.
3. Program level curriculum documents should specify intended learning outcomes and capstone assessment tasks to show consistency for all students. At the same time, instructors should have the freedom to determine how those learning outcomes will be achieved with their students, based on their personal style and the student's style of learning.
4. Encourage a great deal of open dialogue in the curriculum reconstruction process. It will do more to energize the faculty and create ownership than anything a presenter or consultant can say.

5. Involve faculty in activities that help them think systematically and strategically in preparation for designing an outcome-based curriculum.
6. Use visual tools whenever possible to reinforce an understanding of the characteristics of systems.
7. Outcome-based curriculum planning teams should consist of members with diverse perspectives, including internal and external stakeholders.



5.1 Curriculum Reform Model

An outcome-based curriculum reconstruction project is not an isolated event. The change process requires the infusion of many elements that impact and shape the reform effort. Figure 5.1 identifies the essential elements identified in the recommendations that emerged from this study as important contributors to the process. Placing student learning and assessment in the center helps keep educational change agents focused on the true goal of educational reform.

Recommendations for Further Study

As colleges continue to face accreditation mandates and consumers demand better educational results, curriculum reconstruction and redesign efforts will become even more critical. It is important to continue the study of faculty teams as they implement significant changes to maximize student learning. The following questions have emerged from this study and merit further investigation:

1. How can higher education embrace and support authentic assessment across disciplines?
2. What kinds of contextual changes must be made in higher education systems to support an outcome-based curriculum?
3. How will outcome-based curriculum reconstruction initiatives align with and support mandated state and federal testing?
4. To what extent should external stakeholders be involved in community college curriculum reconstruction; who are they; what do they provide, and what limitations do they impose?

Summary

As we continue to proceed into the 21st century, community colleges in the Northwest will continue to find themselves under accreditation mandates to modify their basic processes of constructing curriculum and assessing student learning. The accreditation mandates will provide the necessary impetus that higher institutions need to begin and continue the process of change. "Many believe that it is crucial not only to those in education but to everyone else, as well, that we re-create schools for the twenty-first century. As more and more people begin to share that vision, it is increasingly likely that school reform will become a reality" (Schlechty, 1990). As colleges engage in curriculum reform, they will realize that the change process will have significant effects on their students and what they are receiving from the programs.

The change process is not easy, it requires significant levels of involvement and communication, and it must be an ongoing effort. Underneath every change effort, there should be a primary concern for learners and how they are able to function in the real world. Administrators, faculty, and key stakeholders must remember that the goal is to do more than change organization specifications; it is about helping students build greater capacity to contribute to the world in which they live.

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APPENDICES

Appendix A Curriculum Redesign Documents

Program Outcome Guide

Themes, Concepts and Issues	Process Skills	Performance Tasks Evidence of Proficiency	Intended Outcomes
Culture English Speaking Community Social/Legal Contracts Technology Empowerment Social Network Advocacy Problem-Solving Personal Expression/Reflection Tenacity/Persistence Negotiation Personal Responsibility Critical Thinking Problem Solving Planning/Setting Goals Numeracy Grammatical Structure Opportunities Educational	Engage in the five roles by: - Grasping intended meanings through active listening - Communicating needs, ideas, and information with comprehensible pronunciation and discourse and grammatical competence - Reading signs and labels, documents, fiction, expository (content-based) materials, and announcements with comprehension - Writing letters and expository materials and filling out documents with discourse and grammatical competence - Reading and applying graphic	Successful completion of a four-part Issues Research Project that will include a written report and an interactive oral presentation. The following scores on standardized assessment used by the program: 245 on CASAS Listening Test OR Level VII on BEST short oral interview. and 230 on CASAS Reading Tests	Family Member Exercise rights and carry out responsibilities as a household member. Worker Access job information and communicate effectively in the workplace to further career goals. Community Member Build social networks and relationships in the English

Themes, Concepts and Issues	Process Skills	Performance Tasks Evidence of Proficiency	Intended Outcomes
Occupational/Employment Social/Political Personal Growth Themes Family Member, Worker, Community Member, Lifelong Learner, World Citizen, Getting Ahead/Success Issues Comprehension of Meaning Literacy Preliteracy Technological Literacy Priorities and Balance Culture Shock Discrimination	and numerical information - Thinking critically to explore possibility and problem-solve to reach conclusions - Negotiating to address shared goals and/or issues - Recognizing personal behaviors and attitudes in order to communicate effectively across cultures - Envisioning and planning for the future by assessing personal needs and capacities - Using computers and telecommunications to receive and send information	(6 to 8 th grade reading level) and Writing proficiency measure by GED Holistic Scoring Rubric at level 5 or above. Other holistic writing score indicating writing at the 8 th or 9 th grade level.	speaking community. Lifelong Learner Pursue further (formal and informal) education throughout life. World Citizen Promote interactions and respect among people of different cultures of the world.

Course Outcome Guide Example

English as a Second Language		Course Number 0728	Intermediate Reading/Writing (level d)
Themes, Concepts and Issues			
Themes: Communication in roles: family member, community member, worker, citizen, and lifelong learner - Language structure - Written language - Cultural awareness	Concepts: Culture - Social/legal contracts - Technology Empowerment - Advocacy - Problem-solving - Personal expression/reflection - Negotiation - Personal responsibility	Critical Thinking - Problem-solving - Numeracy - Research - Grammatical competence - Planning/setting goals - Self-evaluation Opportunities - Educational - Occupational/employment - Social/political - Personal growth Communicative Competence - English writing system	Issues: - Multicultural awareness - Discrimination - Problem-solving - Personal advocacy - Written fluency - Grammar - Teamwork - Complex structures - Real-life materials - Research - Goal setting - Health - Technology
Overview of Practiced Skills		Performance	
Reading		Tasks	
- Develop and use reading comprehension strategies (predicting, using background knowledge, gaining meaning from context, skimming and scanning text, determining the main idea, inferring, using context clues, and using tables, indexes, graphs and charts, developing comprehension questions and summarizing to promote comprehension and check for meaning) - Use vocabulary-building strategies - Read non-simplified materials such as newspaper articles, information brochures, and short fiction and identify the purpose of the reading		- Read a piece of fiction or nonfiction and summarize it in writing - Write a multi-paragraph essay - Use the library or other source to research and write a report on a topic or problem - Write instructions for others to perform a multi-step task in an essay form. - Write a personal or business letter or a letter responding to a problem - Read, interpret and write an explanation of a chart or a paragraph - Read, comprehend and follow instructions for a multi-step task	
Written Communication			
- Write letters and short 1-3 paragraph essays; take notes during group and class activities - Analyze letters and essays for grammatical and structural contributions to clarity; apply knowledge of grammar and vocabulary to achieve accuracy in written documents - Use reference material to check accuracy of spelling, grammar and vocabulary - Use self- and peer-editing strategies - Develop editing and proofreading strategies			

◆ Develop strategies for organizing and presenting ideas in writing according to purpose, conforming to standard formats, including electronically produced documents Technology ◆ Use word processing to create documents ◆ Use the Internet to practice English language skills and conduct research ◆ Create a visual presentation. ◆ Use E-mail to communicate with others ◆ Find articles on the internet using search engines Research ◆ Seek information from several sources such as public libraries, newspapers, and the Internet ◆ Analyze and use information collected in class to promote reading comprehension, writing and/or speaking	
Outcomes: Upon completing Intermediate Reading/Writing (level d), students will be able to use the English language to communicate as related to roles as family member, community member, worker, lifelong learner, and citizen. They will be able to do the following: ◆ Read and understand various types of written authentic material for pleasure and information ◆ Research information from various sources to solve problems ◆ Write essays at a level to continue education beyond ESL ◆ Write various types of personal and business letters and documents	

Capstone Research Project**Issues Research Project (IRP) – ESL Program****1. Project Overview – What is the IRP:**

The issues research project is the final learning experience for students involved in the ESL program. Success in the project demonstrates written and communicative competencies (reading, writing, and speaking) necessary to use the English language in life roles such as community member, family member, worker, life-long learner, and world citizen.

2. Project Description:

In this final class of the ESL program, we will assist you to develop your speaking, reading, and writing skills necessary to complete an IRP. This project will give you an opportunity to show your understanding of an issue (of your choice) and communicate your findings with others. Successful completion of this work leads to the certificate of mastery in ESL.

3. Project Contents - Your project will consist of three activities:

Part 1. Identify an issue – you will choose a real life challenge that is related to you, your family, your work, or your community. The challenge should be important to you and impact you.

Part 2. Once identified, you will write a half page statement that clearly explains what the issue is, why it is meaningful to you, and why you want to research it.

Part 3. Interactive oral presentation and interview/question/answer session.

Affinity Diagram Example

Affinity Diagram Question: What does a supportive family member do when taking care of an older adult?

<i>Communicate</i>	<i>Assist with hard jobs</i>	<i>Encourage</i>	<i>Take time</i>	<i>Provide support</i>
Talk to them	Organize important documents	Encourage physical activity	Call them frequently	Be patient
Listen attentively	Take them places	Encourage independence	Remain loyal	Protect them
Open dialogue	Drive them to the doctor	Encourage continued learning	Enjoy the arts	Value and acknowledge their concerns
Share concerns	Provide information	Help them continue to pursue their interests	Teach them computer skills	Remember good things
Ask questions	Help dress them	Celebrate every day of life	Take them to church	Hug and love them
Understand their perspective	Bring them library books	Encourage them to be positive	Be available	Be a friend
Empathize	Do laundry, bills, and yard work	Encourage them to stay connected with family	Be reliable	Research community resources

Sample Unit/Lesson Plan

Course Level: _____

Name of Course: _____

Intended Outcome(s) of Course/Level: _____

Intended Outcome(s) of Lesson: _____

Performance Task(s) of This Lesson: _____

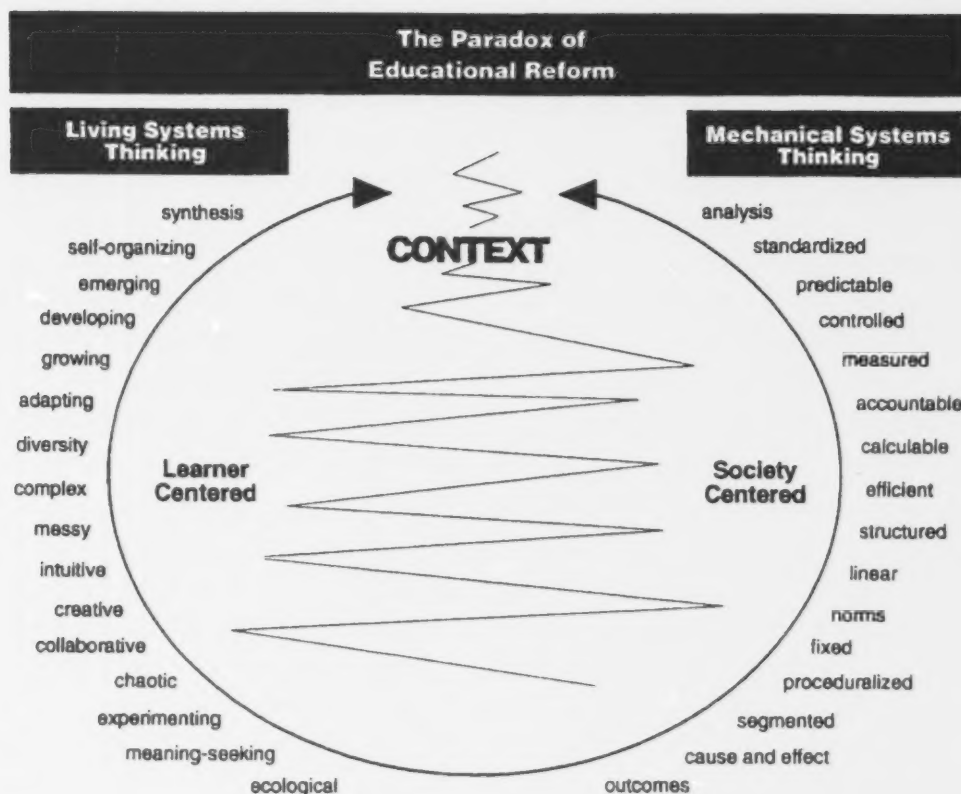
How this moves towards performance task of this level: _____

Course Handout & Course Outcome Guide (COG): _____

	Concepts, Issues, Themes, & Process Skills	Linguistic Skills	Roles
Activity Steps			
Connection/Review - Create learner attention - Relate activity to lesson objective or to previous learning			
Introduction - Create attention-getting process to focus learners - Establish content of lesson - Communicate purpose/objective of lesson - Communicate tasks to be performed for lesson - Determine student groupings, if planned			
Assessment Do informal comprehension checks to determine students' background knowledge			
Presentation - Provide new information - Include instructional strategies			

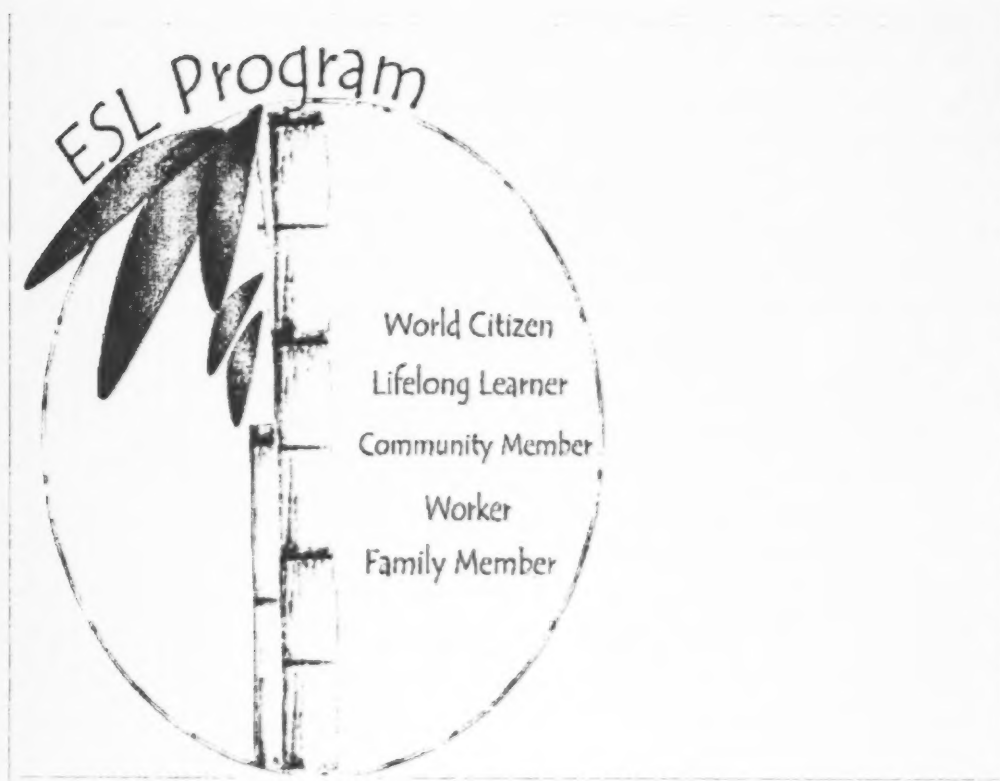
	Concepts, Issues, Themes, & Process Skills	Linguistic Skills	Roles
(consistent with scoring guide) • Check student level of learning and understanding throughout presentation • Integrate basic skills • Integrate technology skills • Integrate critical thinking skills (as they fit goals or outcomes)			
<i>Practice/Application/Reinforcement</i> • Provide practice activities that facilitate mastery of performance tasks • Identify manner in which you will provide feedback to students • Identify manner in which you will monitor student progress			
<i>Evaluation, or Review/Closure</i> • Apply a cumulative assessment process through demonstration of a performance task that meets the intended outcomes of the lesson and course			

Appendix B Mechanistic vs. Living Systems Model



Mechanistic vs. Living Systems Model from "The Outcomes Primer: Reconstructing the College Curriculum" by R. Stiehl. Copyright 2000. Reprinted with permission of the author.

Appendix C Bamboo Tree Metaphor

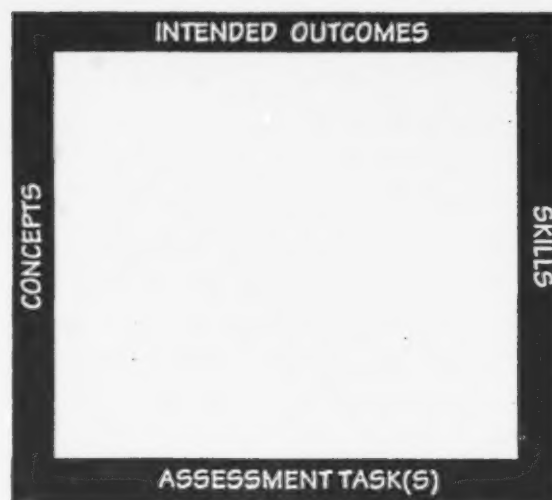


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Appendix D Zoom Box

*What do our students need to be able to do "out there"
In the rest of life
that we are responsible for in here?*

*What concepts, themes and issues must they
understand "in here" to achieve
the intended outcome(s) "out there"?*



*What skills must they develop
"in here" to achieve the intended
outcome(s) "out there"?*

*What can we have students do "in here"
to show evidence of the intended learning outcome(s).*

Zoom Box by R. Stiehl. Copyright 1999. Reprinted with permission of the author.

Appendix E POG Song

OUTCOMES

(A song set to the tune of Rag Mop)

O!

I said Oo!,

Oo G!

Oo G!

Ogs!

Oo G G! Outcome Guides!

O!

You make a thousand post-it notes.

I said O-G!

Then you stick 'em on up

Oo G!

Then you move 'em all around

Oo G G!

Till you duster up some groups

Ogs!

Oo G G! Outcome Guides!

LOGS!

What are major student roles?

I said L-O!

Map 'em with your P-O-Gs

L-O-Gs!

How will students' use the skills?

L-O-G-Gs!

Don't forget your Post-It notes!

LOGs!

L-O-G-Gs! Learner Outcomes!

POGS!

First you map the program out

I said P-O!

Figure where the heck you are

P-O-Gs!

Decide where you wanna go

P-O-Ggs!

Then you ZOOM on in!

POGs!

COGs!

Ya' gotta "Design Down" your course

I said C-O!

Content, Issues, Themes and Skills

C-O-Gs!

Fit 'em with the L-O-Gs!

C-O-Ggs!

Activities that will assess

P-O-Ggs! Program Guides!

COGs!

C-O-Ggs! Course Outcome Guides!

O-Gs!

Content, themes, issues, skills!

O-Gs!

Content, themes, issues, skills!

O-Gs!

Content, themes, issues, skills!

O-Gs!

What a marvelous way to teach today!

O-Gs! Outcomes!

Appendix F Faculty Surveys

PCC ESL LOT Team Survey Instructional Systems Design Spring, 1999

Please respond to the following questions in as much detail as possible. All responses will be kept anonymous. Please use an additional sheet if necessary.

1. What activities were the most effective and meaningful for you from the class?
Describe the activities and how they were effective and meaningful for you.
2. What types of changes have you made in your work and/or life based on the material and concepts that the professor discussed? Describe the changes and the connection to the class.
3. What activity or concepts helped you to think more systemically as opposed to mechanistically?
4. What activities or concepts helped you to think more strategically?
5. Rate yourself on the following scale – 1 = extremely knowledge and 5 = no known knowledge of the concepts in the past:
 - When I first began the class, my skills and knowledge in systems and strategic thinking were _____.
 - At the end of the last class, I felt that my skills and knowledge in systems and strategic thinking were _____.
6. Please provide any additional comments concerning your learning in the class and the strategies that were used to develop your learning.

Evaluation Feedback Form
Portland Community College – ESL Department
Spring, 2000

1. During the "Instructional Redesign Process", identify events, incidents, activities that engaged and motivated you. Be as specific as you can. Examples are helpful.

2. What practices have you changed since you began this program?

3. What have you enjoyed the most about being a member of this team during the past year?

4. During the "Instructional Redesign Process", identify events, incidents, activities that disengaged you, interfered with your learning, or failed to empower you. Be as specific as you can. Examples are helpful.

5. In what ways could the facilitators improve this "design process"?

6. Any other comments?

Evaluation Feedback Form - Results
Portland Community College – ESL Department

Question	Response
1. During the "Instructional Redesign Process", identify events, incidents, activities that engaged and motivated you. Be as specific as you can. Examples are helpful.	• I appreciated the chance to interact with colleagues to define and to perceive different aspects. • The process Joan took us through for writing a scoring guide with her black and white pictures will stay with me. • Small groups. • Brainstorming. • Outside readings to provide context to the learning and process. • Enjoyed designing COGS and Scoring Guides. • I enjoyed designing COGS and scoring guides. • I enjoyed discussion of our program and skills. • Working with one colleague to finish up a COG, design performance tasks and scoring guides was very motivating. Also the various Post It activities in the first term were excellent in shaking up my entrenched vision of what ESL instruction is about. • The process of focusing back and forth between parts/whole has had a major impact on my teaching. It is like processing top/down and bottom/up and I use it consistently in my teaching as I observe where my learner is getting "stuck" and having difficulty demonstrating a concept. My Sp. ED. Background encouraged this but it was wonderful to find support for it. • I liked the efficient and comprehensive activities that were productive. Example: Spring term at Capital we individually

Question	Response
	brainstormed and put on post-its our ideas for curriculum content. Then we added our post-it to a collection of everyone's ideas. • Facilitating use of any and all teachers as experts —i.e. letting everyone shine. • Drawing (or trying to draw) the Mississippi River and realizing that none of us drew the tributaries.
2. What practices have you changed since you began this program?	• I am doing more systematic thinking about my curriculum planning. This has been helpful to me. • I have a teaching/learning outcome for each unit/class I teach with roles in mind. • More tuned in to what I am doing and how it relates to the bigger picture (desire to be more consistent in teaching to my philosophy —still in progress). • Tried to implement a performance assessment task, which gave me a clearer idea of what kinds of assessment tasks work best in terms of effective use of class time and tie-in to overall COG outcomes. • I have tried to use a performance task assessment in one class. • I have been incorporating the thought "what do I want students to accomplish when this is over?" more and more in my approach to lesson planning. My courses are developing more underlying strands rather than being such a series of "splashers." I am including performance tasks and trying to see how they work. • I have become even more "outcome-based"! I am able to scaffold for the individual learner much more effectively. I am also attending much more closely to what my learners cluster around in terms of learning behaviors (similar to factors). • I have channeled my thinking and prep away from survival skills (shopping, transportation, etc.) and more towards

Question	Response
	roles (worker, lifelong learner, etc.). No real change in overall balance – just different way of getting there. • I was pleased to discover that many of my colleagues and my own practices have been in line with learner outcomes for some time. But – I look forward to implementing our ISD work, knowing that we still have a ways to go before getting there.
3. What have you enjoyed the most about being a member of this team during the past year?	• The opportunities to engage in constructive feedback about defining the job we do here. • Getting to know my colleagues better, watching conflicts arise and develop and watch resolution happen (or some resolution). • Strengthening friendships – sharing a vision together. • Collegiality. • Watching all faculty PT/FT share leadership • Having the opportunity to be connected with faculty who works at other sites. • I enjoyed the other teacher's involvement and excitement about something as "dry" as curriculum redesign. • I have deeply valued the teamwork with my colleagues! I have even enjoyed the slogging debates. It has been very valuable to me to debate learning theories and practices. It is so good for me to look inside see what I believe is or is not "good teaching" and shake up my routine. The inner work and the team building have been equally terrific. • We had many "aha!" moments. We had heated debates occasionally and there were times that we felt were in a no mans land. But our instructors supported us and we rose above the chaos. • Getting to know my colleagues better. • Feeling the respect and support of the

Question	Response
	consultants. • The possibility and permission to dream big. • The opportunity to be creative – to try and be objective about something that we are usually very subjective about (i.e. – ourselves and what we do).
4. During the "Instructional Redesign Process", identify events, incidents, activities that disengaged you, interfered with your learning, or failed to empower you. Be as specific as you can. Examples are helpful.	• Lots of gab and random small groups of personal friends of each other talking about anything and everything but not on task. It is hard for me to filter out the background noise. Announcements made on the fly in a busy noisy room are turnoffs and spongy, unclear directions too. • Group work is difficult for me if I am not allowed reflective time. I need to reflect before participating and while participating. I quickly disengage if I have to be in a group with many people and issues. • We got caught up in things that seemed minor- perhaps did not need to be an extended discussion. • Designing a sample lesson for imaginary students. • Slow, draggy pacing at times (e.g. putting the notebook together killed a lot of time; some discussions were like this too). • The discussion on alignment or trying to come to consensus on items was very slow and tedious. • Even though they brought stimulation, the "Slogging" debases also disengaged me. Last summer's meetings were very frustrating and discouraging in determining how many SPLs and coming up with the POG was grueling! However, I did see light by the end of the summer. • It is just my learning style – I process top/down and sometimes it is difficult to communicate to others what lies ahead. There were times that I would throw out

Question	Response
	an aha not be understood, and then hear someone else grow the aha and be understood. • Being confused about whether dinner was an on-site/working time, on a break. • The class starting late (I firmly believe that class should start on time even if only 2 people are present). This way those on time are respected and those who are late don't feel bad for holding things up. • Some teachers being allowed to be rude to other teachers by saying things that negated or pooh-poohed another's' ideas and/or quarries. I feel the professors could/should not allow this to happen. • Discussion at fine details before the big picture was developed.
5. In what ways could the facilitators improve this "redesign process"?	• I think there was a lot of top-down direction disguised as participation. You need to follow your own advice and let it design itself more systemically. It is tempting to theorize, "it should look this way", and then tell us how it should work. It tends to reinforce itself according to your wishes. Remember "clever Hans" the canting horse? His master directed him by subtle unconscious ways. But I think this is a step in the right direction. The real design will need to be as we test-drive it then take into the shop and redesign. • Allow for more reflective time/individual time before group work. Allow for a product to be done by the end of each session. • Provide/assign more outside reading to provide a broader context for our work and increase our skills at assessing what kinds of tests are/are not valid and reliable. • In designing COGs for courses that must be sequenced across levels, do them in stages. E.g. all the outcomes for all

Question	Response
	COGs, then align them. Next all the assessment tasks then align them. And so on. Then the COGs will be more aligned when finished. • Speed up the whole process. I some people need more discussion, they could have the discussion and we could come in later and approve it (those of us not very interested in some items). I think we would still buy into the result even if we did participate in the discussion. Of course, we would need to be informed of the topic under discussion. • The teaching strategies class would have been more stimulating if it had included ideas of methodologies of ways to teach in outcomes based instruction. The strategies course was frustrating until we got to writing sample units. I kept filling like "where is the beef?" When are we going to get to the actual strategies part? I would have liked to look at ways to teach that are "constructivist" or other progressive teaching theories. • I don't know – they were our mentors in every way possible. • Require more outside work. If students are given something to read, incorporate it into the next class. • Have some intellectually stimulating discussion about (for example) the role of educator/educated people in a society, the theory of language acquisition... conversations that would provide a foundation for the work we did. Adding to what seemed to be mainly content and practice could enhance the class. • Address the fact that every class is multi-level. Provide opportunities for teachers to participate at different rates and to varying depths.
6. Any other comments?	• What we need to take away from this course: the process of communicating and conscious designing together. Thinking

Question	Response
	of the impact on the student of our decisions; critically discovering the basic elements of a language/culture learners needed repertoire as a member of our English speaking modern culture. • The process took over itself at times: process of the process when we were too zoomed in or too zoomed out. We are far from implementation and this is a little scary. I think that the assessment component really needs to be explained further so we can all start implementing. Outcome is not hard to group but the process of summative/formative assessment will take a time to implement. • It was wonderful to be involved in this whole process. • God! How I wish I could take a cohort! If I could see any way to earn sufficient money to pay back the student loans, I would need to get to do it, I would. • Professionally, personally, and in many other ways we are truly profited from the experience! • I liked the feeling of being part of a group with a common cause. • I liked the times where there was a high level of intensity (not negative intensity, but passionately positive intensity). • It is always good for a teacher to be a student we are reminded how important pacing is, that breaks are needed, that chars can be uncomfortable etc. • I liked being able to take a graduate course.

PCC ESL LOT Team Survey Results
Instructional Systems Design
Spring, 1999

Question	Response
1. What activities were the most effective and meaningful for you from the class? Describe the activities and how they were effective and meaningful for you.	• Interactive collaboration with colleagues/peers • Instructors leading through modeling examples allowing us to free our thinking and be flexible • Discussions – allowed me to verbally and graphically describe how I approach problem solving and creativity • Developing a POG and map (the bamboo) • It was very active and engaging • It was an opportunity to really learn from each other's viewpoints and ideas • Brainstorming together • All of the interaction • Zoom book – how differently something can be perceived when it is only observed close-up. The whole picture must be considered • Clustering activities – affinity process - it was fun to find order in the chaos • Developing POGs and COGs • Putting stickies on the board and then classifying them within a group • Seeing other peoples ideas • Small groups • Opportunity to brainstorm with colleagues • Reading the Salmon article • Hearing that the teacher does not have to have all of the answers
2. What types of changes have you made in your work and/or life based on the material and concepts that the professor discussed? Describe the changes and the connection to the class.	• I see systems everywhere now and have applied that thinking to my own courses as well as teaching others • I used to focus on the details too much in my planning instead of how things fit into the larger, more complete picture • I focus more on whole outcomes (POGs and COGs)

Question	Response
	• I have experiment with using the POG and COG formats for weekly lesson plans • I see a bigger picture • I am more conscious of everything I do as it effects everything else • I am becoming more sensitive to students' needs – their need to understand the way things work in the United States and their roles in this society. • I use sticky notes now for brainstorming projects for students • I am becoming more aware of what systems thinking is • Realizing that outcome-based did not require a lot of tests and grades • I am using the material • I am thinking more about systems – reading, work, teaching, life • Using the affinity process with my own class – students loved it!
3. What activity or concepts helped you to think more systemically as opposed to mechanistically?	• I have always thought systemically • Have been able to further integrate my thinking based on the concepts presented • I have the language now to communicate better • Reading Peter Senge's Fifth Discipline • Drawing our understanding of the current program • The video by Ackoff • Creating the chair and yarn structures – how things all fit • Having the freedom to redesign the program model • Zoom box • The picture perspective book • The yarn connection • Seeing the class members blossoming in the work sessions • Making connections between so many ideas • Defining what mechanistic and systemic thinking is and reading about the disaster with the Salmon • Reading

Question	Response
4. What activities or concepts helped you to think more strategically?	• Post-it notes when we rearranged them to become our five roles – very powerful • Drawing my ideas in a systemic way were very powerful ways to give me the language to talk about the ideas • The Mississippi River basin concept activity • Going from big to small • Asking “How does this fit into the big picture?” • The transparency overlays (the bridge etc.) • Viewfinder – Zoom Box • Developing COGs and POGs • Making a visual program map as a metaphor for our program • Making my own COG • Having freedom from the rest of the group helped • Reading and participating with 1-3 other people on a project
5. Rate yourself on the following scale – 1 =extremely knowledge and 5 = no known knowledge of the concepts in the past: • When I first began the class, my skills and knowledge in systems and strategic thinking were _____. • At the end of the last class, I felt that my skills and knowledge in systems and strategic thinking were _____.	• 2, 2, 2+, 4, 5, 2.5, 3, 3, 4 • 4, 2, 4, 3, 3, 1.25, 2, 4, 2.5 • I had studied his before in another course
6. Please provide any additional comments concerning your learning	• Both instructors have been excellent! I feel very privileged to be a part of work sessions.

Question	Response
in the class and the strategies that were used to develop your learning.	• The class work is clearly directed toward the outcome-based era • Outcome-based will help us to build a strong student relationship • This class emphasizes active, participatory learning. It is good and should help improve the successes of students who have traditionally not done well in school • I liked doing global things • Having the time to work together on "out of the box" thinking • The non-traditional style of teaching

Appendix G Compilation of Interview Questions

1. What concepts and strategies have been most effective based on the feedback from the ACC members?
2. Do you believe that NWCC is embracing a system perspective at this point?
3. Is administration embracing the new concept and changes?
4. How has the strategic planning process worked as the ACC groups have been working to implement the changes?
5. What were your impressions of the group facilitation process and role throughout the whole year?
6. Thinking about the model of organic systems thinking – how did this group transition from behaviorist to an organic model?
7. From a program/planning perspective the group was able to redesign their program? Will this be the model for the state?
8. What would you do differently as the facilitator/consultant?
9. What were 1-3 activities that you think stimulated them?
10. Could you give me a little historical background of NWCC and how it is organized?
11. Why is what Joan is doing with the college significant and important to you and leadership?

12. How will the college benefit from what the ESL team is working on?
13. What is the commitment and support from admin staff?
14. When you think about yourself in Joan's work session, is there anything you remember from her session that you go back to repeatedly?
15. What are some historical pieces of information you could provide me with for this study and your involvement?
16. What leadership support do you see in the process?
17. Was accreditation driving this?
18. Why was the whole program important for NWCC?
19. What success stories have you seen?
20. Give me some history of your involvement and your role with NWCC?
21. What was your role?
22. How long did it take for the telecommunications team?

Appendix H Informed Consent Document

Informed Consent Document

1. **Title of research:** Faculty Development for Outcome-Based Curriculum Reform in the Community College.
2. **Investigators:** Dr. Ruth Stiehl, Full professor, School of Education, Oregon State University. Jennifer M. Webster, Ph.D. Student, School of Education, Oregon State University.
3. **Purpose of the research project:** This qualitative research project will help with the continued improvement of OSU's School of Education Graduate program courses. The study will help to identify what instructional strategies help participants change their thought from a basic mechanistic (systematic, controlled, measured) paradigm of their teaching and training, to a more organic (responsive, flexible, creative) and bigger picture paradigm. Determining what strategies work and do not work, will assist the OSU professors with their own curriculum design.
4. **Procedures.** I understand that as a participant in this study the following things will happen:
 - a. **Pre-study Screening.** There will not be any pre-study screening.
 - b. **What participants will do during the study?** Participants will engage in their classes without any interruption or any influence from the researchers. There will not be any modification, control groups or other effects placed on the participants. Researcher will only be observing and taking notes throughout the classes.
 - c. **Foreseeable risks or discomforts.** There will not be any risks or discomforts to the participants.
 - d. **Benefits to be expected from the research.** The benefits will be that the OSU instructors can learn what strategies and approaches work best for systems thinking to improve their curriculum.
 - e. **Confidentiality.** Any information obtained from me will be kept confidential. A code number will be used to identify any information that I provide. The only persons who will have access to this information will be the investigators and no names will be used in any data summaries or publications.
 - f. **Compensation for Injury.** There will not be any risk involved in carrying out the proposed research study.
 - g. **Voluntary Participation Statement.** I understand that my participation in this study is completely voluntary and that I may either refuse to participate or withdraw from the study at any time.
 - h. **If you have questions.** I understand that any questions I have about the research study and/or specific procedures should be directed to Jennifer M. Webster, 1827 Mousebird Ave. NW, Salem, Oregon, 97304, (503) 371-7088. Any other questions that I have should be directed to Mary Nunn, Sponsored Programs Officer, OSU Research Office, (541) 737-0670.

5. **Alternative procedures or course of treatment.** This section has no relevance to the proposed study.

My signature below indicates that I have read and that I understand the procedures described above and give my informed and voluntary consent to participate in this study. I understand that I will receive a signed copy of this consent form.

Signature of subject (or subject's
legally authorized representative)

Date Signed

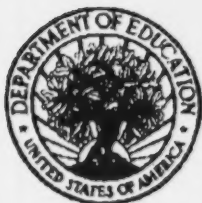
Name of Subject

Subject's Present Address

Subjects Phone Number

Signature of Principal Investigator
(Optional)

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Organization/Address: 1827 Monseigneur Ave NW	Telephone: 503 371 3973 FAX: same
Salem, OR 97304	E-Mail Address: ejwebster@comcast.net Date: 9/21/03

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